

**REPORT OF PROCEEDINGS BEFORE**

**STANDING COMMITTEE ON STATE DEVELOPMENT**

**INQUIRY INTO ASPECTS OF AGRICULTURE IN NEW SOUTH  
WALES**

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**At Tamworth on Wednesday 5 September 2007**

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**The Committee met at 10.00 a.m.**

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**PRESENT**

The Hon. A. Catanzariti (Chair)

Reverend the Hon. F. J. Nile

The Hon. M. J. Pavey

The Hon. C. M. Robertson

The Hon. M. S. Veitch

**CHAIR:** I welcome everyone to this public hearing of the Standing Committee on State Development inquiring into aspects of agriculture in New South Wales. The inquiry will be examining the contribution of agriculture and agriculture-based products to the New South Wales economy, impediments to sustaining appropriate levels of production, capacity and growth in the agricultural industry and initiatives to address those impediments. Before we commence I would like to make some comments about aspects of the hearing. With respect to the delivery of messages and documents tendered to the Committee, witnesses, members and their staff are advised that any messages should be delivered to the Committee clerks. I also advised that under the standing orders of the Legislative Council any documents presented to the Committee that have not yet been tabled in Parliament may not, except with the permission of the Committee, be disclosed to the public by any member of such Committee or by any other person.

Committee hearings are not intended to provide a forum for people to make adverse reflections about others. The protection afforded to Committee witnesses under parliamentary privilege should not be abused during these hearings. Therefore, I request that witnesses avoid mention of other individuals unless it is absolutely essential to address the terms of reference. I welcome the Hon. Trevor Khan, MLC, to the hearing.

**JAMES MORISON TRELOAR**, Mayor, Tamworth Regional Council, P.O. Box 555, Tamworth, 2340, sworn and examined:

**CHAIR:** Welcome to the hearing. Would you like to make a brief opening statement?

**Councillor TRELOAR:** I am aware that I am able to make an opening statement. I would like to save those comments for the topics that I have before me and if those topics are not addressed, I was wondering if I could address them at a later stage.

**CHAIR:** Yes.

**Councillor TRELOAR:** In general, the Tamworth Regional Council is an area of 9,500 square kilometres. It represents a broad range of agricultural usage from stock to cropping and any comments I make would be comments on my own understanding of the makeup of the agricultural industry in the region. I am not a farmer and I would like to make it quite clear that I do not represent any farming organisations.

**CHAIR:** I am sure you do very well. You probably do better than most of us farmers. Thank you for that. We will go straight to questions and if you want to make any comment at the end you may do so.

**Councillor TRELOAR:** I have five topics and if we do not address them, I will make some statements on them. One is in relation to genetically modified crops; one is in relation to weeds and noxious weeds. The third is in relation to workforce requirements for agriculture, the cost of water in our region and the right to farm and the potential opportunities for legislation and right to farm areas.

**The Hon. CHRISTINE ROBERTSON:** In your opinion what are the major impediments to sustaining appropriate levels of productive capacity and growth in the agricultural industry, particularly in relation to Tamworth and surrounding areas? Coming from such a large council it would be good to hear issues in relation to secondary industry, markets, infrastructure for movement of goods and those sorts of issues.

**Councillor TRELOAR:** In terms of this region, I would have to make you aware of the secondary processes that are aware in our community in agriculture. We have a major lamb abattoir, we have major beef abattoir and we have a very major poultry processing plant in the city. Along with that we process grains from barleys into malts, wheats into flours and starches and as such we then have an ongoing processing area where some of those flours are actually processed into pasta and other products as well.

One of the challenges we face is a suitable workforce for those industries to continue their operation in the city. A supply of skilled and unskilled labour is required, particularly for our

processing areas. It is not so much a demanding job but the prestige of the job is not necessarily great. They are reasonably good employers in terms of salary and conditions but the ongoing requirements for a labour force is vitally important in the community. In some instances that is becoming very difficult to satisfy, particularly where those operations wish to look at second and third operation shifts. In some instances they are now doing two shifts but they are potentially looking at doing a third shift. That is one of the challenges.

The other challenge is that as the requirement to centralise the processing becomes more and more common in agriculture so, too, is the necessity to bring that supply further distances and an ongoing supply of produce is becoming a challenge as well, particularly in the poultry industry. It is an area where there are certain challenges in setting up poultry operations, particularly the sheds and things, and that is becoming a challenge as well in terms of the secondary operation of those agricultural industries.

**The Hon. MELINDA PAVEY:** Picking up on your comments about the workforce, as a community leader what do you see are some of the solutions for that workforce problem? This Committee held an inquiry two years ago into the skills shortage and it is an ongoing problem. The Committee is aware of those challenges. Do you have any solutions from your perspective that government should be recommending or pursuing?

**Councillor TRELOAR:** Probably the greatest challenges that governments face at the moment is decentralising from major metropolitan areas, and it is a challenge. I can sit here honestly as the mayor of a regional centre and say it is a great thing but in practice it is a very difficult thing to achieve and throwing money at it is not the solution. It is an ongoing battle of being able to encourage people to move out of metropolitan centres into regional centres, particularly when you are looking at those unskilled job areas where there is enormous opportunity in regional centres. To have an unskilled job in the metropolitan area it must be nearly impossible to maintain a lifestyle. You must have to work an enormous number of hours with the cost of housing, transport and those things.

**The Hon. MELINDA PAVEY:** The cost of housing and transport.

**Councillor TRELOAR:** The cost of housing, transport and those sorts of things, whereas in a regional centre the cost of housing and so on can be so much less that, as a consequence, you do not have to have as great an income to satisfy your living needs.

**The Hon. MELINDA PAVEY:** By way of example, what sort of income might a skilled worker in the lamb or beef abattoirs or in poultry production be earning?

**Councillor TRELOAR:** If they are unskilled, and not a slaughterman, I suggest they would be earning between \$750 and \$850 a week. Skilled slaughtermen, with overtime, could potentially earn quite a reasonable salary, ranging up to \$1,200. So they are reasonably well paid jobs. They are not below basic standard of living jobs, but they are not the most pleasant of jobs either.

**CHAIR:** What is the challenge between people on the ground, say between the chicken places and the mines? How much have the mines taken away from the other industries in the area?

**Councillor TRELOAR:** The impact of mining has not yet become that obvious in this region. It is very much in its infancy. Werris Creek is coming on line, and Gunnedah has been on line for some time, but they are not large employers at this stage. If they develop and grow further, they will represent an enormous challenge for the workforce in the Tamworth region.

**The Hon. MICHAEL VEITCH:** I think the question was whether you have lost skills sets to the resource boom in other States. Have people moved away from the region because of that?

**Councillor TRELOAR:** I can say that is not obvious. I am not aware of that, but I cannot guarantee that that has not happened.

**The Hon. CHRISTINE ROBERTSON:** I pick up on one of the issues you listed. Can you outline your issues with genetically modified crops?

**Councillor TRELOAR:** There are two sides to this argument. Obviously, many of the cropping areas are very confident that they can contain and control genetically modified crops, but one of the issues in our processing industry is that they sign an undertaking, particularly in the export sector of our abattoirs, to guarantee the crops and food items that go into the production of their meat. With the introduction of genetically modified crops, that guarantee cannot be given. I would suggest it would put at risk the abattoir industry's export capacity in this region.

**The Hon. MELINDA PAVEY:** One of the other challenging issues that you raised in your introduction was supply of produce. Again, what solutions would you suggest to government to overcome those problems?

**Councillor TRELOAR:** I hate sitting here and saying this, but it is probably more a local government issue, and we should be taking the leading role in it, because in some instances it is the right to farm of our farming industry and also the compatibility of farming within farming. An example would be broadacre farming and the introduction of a vineyard next door to a broadacre farm. Many of the chemicals used on a broadacre farm to control broadleaf weed and the like can have a disastrous effect on vineyards and viticulture. The challenge is to enable both of those farming activities to take place and still give them the right to farm. But if you look at the poultry industry, there is the difficulty of finding suitable areas for the ongoing creation of sheds and so on for that industry.

**The Hon. MELINDA PAVEY:** To meet Environmental Protection Authority standards?

**Councillor TRELOAR:** Sometimes just community expectations—that is, the community not wanting to live within a one- or two-kilometre radius of a poultry shed because of the previous history of odour and such things. Sheds are improving, and improving dramatically at the moment, but there is still an image attached to that industry.

**Reverend the Hon. FRED NILE:** The Committee is getting submissions from farmers complaining about over-regulation by local government, State government and Federal government, and even between government departments. Is that something that is prominent in the Tamworth area?

**Councillor TRELOAR:** I cannot honestly answer that question. I have to say, from a farming perspective, I do not think the industry is regulated from a local government perspective. Whether restrictions are making it more difficult at a State or Federal level, I cannot honestly answer, but in terms of regulation at a local government level I would suggest that the regulations are what I was talking about before, about the right to farm, and farming practices and the impact of those farming practices on neighbouring houses and neighbouring properties would be the biggest issue that I would see in terms of control and regulation.

**Reverend the Hon. FRED NILE:** So you are not hearing complaints from farmers about over-regulation?

**Councillor TRELOAR:** I think possibly in the transport industry we are hearing concerns about over-regulation. It is a difficult industry in terms of understanding exactly what capacity is on a truck at different stages. When you are loading cattle, stock and grain and you do not have a weighbridge, it is difficult to know exactly what weight is on a vehicle.

**The Hon. MELINDA PAVEY:** Given the different weight standards in Victoria and Queensland, could you expand on the difficulties that that poses for Tamworth?

**Councillor TRELOAR:** Just the various routes that vehicles are allowed to take, whether they are B-doubles or semi-trailers, and the different legislation between States are matters that I have heard raised as concerns. I cannot advise any further on it, because I am not in that industry, but I am aware that there are concerns in the transport sector of the agriculture industry.

**CHAIR:** We have heard from other witnesses that there is a problem between the States in that regulation in one State is different to regulation in New South Wales, and that getting through those areas is a problem.

**The Hon. MICHAEL VEITCH:** Councillor Treloar, in a submission received on a previous inquiry day it was raised with the Committee that one of the issues with local government in processing development applications is dealing with State departments but also the catchment management authorities. Can you comment on your council's experience with processing development applications and the involvement of government departments, particularly catchment management authorities?

**Councillor TRELOAR:** In this area we are fortunate. When the CMAs were established, we took a very strong view that they were not going to be a threat to local government, that they would be a tool to help with local government, and on that basis we have worked very closely with our CMA in the area. But I would have to say there is an enormous challenge with other State government bodies in terms of getting responses to DAs in an appropriate time frame. Some of those areas are starting to be addressed slightly better. Bushfires was one of those areas where we had enormous problems in dealing with that department, but that seems to have improved enormously. But we still have an enormous problem with many State government departments in relation to processing DAs. That will range from the Roads and Traffic Authority through to various heritage groups. I do not think there is one area that is exempt, to be quite honest.

**The Hon. MICHAEL VEITCH:** What about the interface between agricultural activity and urban development, usually agricultural activity on the fringe of urban development? Are you having any issues with your local environment plan regarding zoning in support of prime agricultural pursuits?

**Councillor TRELOAR:** With our LEP—and understanding that since our amalgamation we are going through the process of combining five LEPs into one, which is challenging in its own right—it is fairly clear that right to farm opportunities in the agriculture industry need to be protected. I do not think there is a clear way of protecting that right to farm. One of the ways is looking at that through legislation and giving legislative rights for the ongoing operation of farming. One also has to be very much aware that lifestyle farming is becoming quite a big thing in our community. Farmland is not necessarily being destroyed by people who have a secondary income. Some lifestyle farms are quite productive and contribute significantly to the opportunities of farming and the generation of farm incomes. But just because a person does not work full time on a farm and chooses to have other income does not necessarily destroy farmland. It is quite often overlooked that just because a farm is no longer viable in the sense of providing a sole source of income does not mean that it cannot play a very important role in the agricultural pursuits of the nation.

**The Hon. CHRISTINE ROBERTSON:** This is an important legislative issue, and it would be very helpful if the Tamworth Regional Council could get back to us with more information on small landholdings in the vein that you have started to address, because we will consider this in the near future.

**Councillor TRELOAR:** Obviously, the issue with LEPs is minimum lot sizes for agriculture. The size of a block of land will not determine its viability as a farm. We are starting to see quite clearly, as we move into more intensive forms of agriculture, that we can have quite viable farms on much smaller plots. Also, when you start looking at some of the broadacre farms, 400 hectares is not enough land for some of those broadacre farms to be viable pursuits. So, under the planning regulations, whilst there appears to be no better formula than lot size, maybe we should be looking more at indicative lot sizes, where there is some right of merit assessment in terms of what the lot sizes should be.

But, if you are going to allow local councils merit assessment of lot sizes in agriculture, they have to be protected from ongoing legal action against them, because if you give local government merit assessment that can be challenged in the court, we will be there all day trying to resolve those issues, and we do not need to be spending more time in courts trying to justify decisions where merit assessment is involved.

**The Hon. CHRISTINE ROBERTSON:** Would you take that issue on notice, please?

**The Hon. MELINDA PAVEY:** Many rural communities have faced enormous social and financial hardship as a result of rural adjustment, rural recession and the drought. Are you able to outline what services are available in Tamworth to address this hardship, and are they adequate?

**Councillor TRELOAR:** I could not answer that question adequately because I do not know the full extent of the issues. Obviously, we were declared a drought area, and we were given the opportunity for exceptional circumstances grants in the area. I do not know the extent of those, and I do not know what the provided to the community.

**CHAIR:** You might take the question on notice.

**The Hon. CHRISTINE ROBERTSON:** We could get the information more readily through the department, rather than asking the council to provide that information.

**The Hon. MICHAEL VEITCH:** Has your council provided any rate relief or any other assistance for farmers who are in exceptional circumstances declared areas? Has the council itself undertaken an initiatives to assist the farming community through the drought?

**Councillor TRELOAR:** Not in terms of rate relief.

**The Hon. MICHAEL VEITCH:** If farmers started defaulting on their rates, does the council have a mechanism to deal with that?

**Councillor TRELOAR:** Yes, there is a mechanism to deal with it, but I suppose if I were to ask is it local government's role to become the provider of unemployment benefit or whatever to our community when that is the sole source of income from that community, I do not believe it is the role of local government to get into that area. That is my personal view.

**Reverend the Hon. FRED NILE:** Have you had any complaints about the numbers of drought support workers and financial rural management counsellors in this area? Is there an adequate number who are achieving their purpose of assisting farmers?

**Councillor TRELOAR:** Yes, there has been a shortage in that area of counsellors. I think more so a shortage of staff to advise of the benefits that are available to those in need. I think that is where the shortage was, more so than counsellors.

**Reverend the Hon. Fred Nile:** Is there some close relationship between the councils, do you have some liaison with those individuals who are in those services?

**Councillor TRELOAR:** From a council point of view, no.

**Reverend the Hon. Fred NILE:** Do you think there should be some equaliser in that provision?

**Councillor TRELOAR:** If they are given the funding to provide that service, but I do not think local government could do it without adequate funding.

**The Hon. CHRISTINE ROBERTSON:** Can you give a few lines on your issues with weeds and the price of water?

**Councillor TRELOAR:** Yes. Firstly, irrigation water and this farming community takes a very firm view that irrigation water should be supplied on a very similar basis to electricity or Australia Post or any situation where there should be a price right across the State. If the State is controlling the regulation and supply of water and water licences it should not be on a valley-by-valley cost recovery; it should be on a cost recovery right across the State. So, water in the Murrumbidgee Irrigation Area should be priced the same as water in the Peel Valley.

We say that is the most expensive source of irrigation water in the State purely because the dam is small. To try to get cost recovery from that water source is unfair on the community that is reliant on it and have to compete right across the State for the produce that make and produce. We

believe on a water supply situation, State Water is now corporatised and trying to get full cost recovery, but it should be on a statewide basis not on a valley-by-valley basis.

In terms of weeds, nobody is adequately funded to look after the control of noxious weeds. Local governments no longer have the financial capacity to provide that service. I do not believe there is any other body that is looking at it in a suitable fashion. As weeds become more difficult to control, the issue should not be to take them off a noxious weeds list; that does not solve anything. With a weed such as green cestrum or privet it becomes so difficult and there is so much of it that we can never get on top of it. Taking it off the list does not get on top of it. Funding should be provided to allow the issue of noxious weeds to be addressed. This is going to be a significant challenge to the agricultural industry in the not too distant future.

**CHAIR:** Are there any other issues you wish to cover?

**Councillor TRELOAR:** No, I am happy, I have spoken in terms of genetically modified crops and the impact that could have on our industry.

**CHAIR:** The Committee may ask you to take further questions on notice. If so, will you provide written answers by 21 September?

**Councillor TRELOAR:** Certainly. I would be happy to address any questions in writing and be given the opportunity to research it.

**CHAIR:** Thank you for your submission and your attendance to day.

**(The witness withdrew)**

**JOHN EWEN CLEMENTS**, Executive Officer, Namoi Water, P. O. Box 548 Narrabri, New South Wales, 2390, affirmed and examined:

**CHAIR:** In what capacity do you appear before the Committee?

**Mr CLEMENTS:** As the executive of a representative group of water entitlement holders in the Namoi Valley catchment.

**CHAIR:** Would you like to make an opening statement?

**Mr CLEMENTS:** Yes. I thank the Committee for this opportunity. These inquiries are good ways of bringing information forward and getting Government to contemplate issues that are sometimes difficult to bring through regular channels, through agencies. Briefly, Namoi Water is the peak representative group of irrigators in the Namoi catchment; we are the amalgamation, the umbrella group, of a number of smaller groups that chose to come together under one organisation. As catchment processes progressed and water issues became more politicised and difficult, we thought it best that we operate under one voice and consolidate our resources and put them into a defined process.

The Committee's terms of reference state that you are looking at the economic worth of the different components of agriculture. A month or two ago I spoke to the Department of Primary Industries which was gathering some background for this Committee. I understand it should have brought forward two reports that are pertinent to irrigated agriculture in the Namoi Valley. They were both carried out by the Centre for Agricultural Resource Economics, Roy Powell. One was for the Department of Transport and Regional Services [DOTARS] in the Namoi Valley, an adjustment program that is still carrying on, I think it was in 2002.

The second report was commissioned by the Namoi CMA and released last year, I think. Both of those are with Roy Powell at the Centre for Agricultural Resource Economics. DOTARS will have one and the CMA the other. If the Committee is not in receipt of them I am happy to make them available. They are both significant studies into the economic input that irrigated agriculture makes in this community, this catchment. Three years ago the report indicated that as an average—and as you would be aware an average in any resource-base commodity would go up and down with the weather—we are around \$400 million a year of economic input into the Namoi economy.

I would imagine that that is less these days not only because of the very significant drought but also because of entitlement cutbacks; that is something I want to talk about today. How do we restore some of that economic worth, given that we have a context of having reduced water. In terms of impediments to sustaining agriculture in New South Wales, and I am speaking in terms of the Namoi, aside from the obvious impact of the drought, which we are unable to do anything about, the most obvious impediment—the one that is the most frustrating to arts and the one that engages us the most, the one that creates the most uncertainty—is a perpetual roller coaster of planning processes.

In common with all industries we have statutory planning processes. If I were building houses in Tamworth I would have to apply by zoning regulations and OH&S regulations for the work site. If we can look at it in that context, because it is worth doing so, there is a fair bit of certainty for those people. The zoning process does not change overnight, it does not change monthly, it does not yet opened up because somebody in Sydney objected and pulled a preference deal. That is a lot of certainty for other industries in terms of the statutory planning processes. We have complete uncertainty.

Our statutory planning processes are subject to political intervention and subject to what we perceive as preference deals and green politicking. We lack any certainty in terms of our statutory planning processes. We have a multi-billion-dollar investment in this valley and the people involved need certainty in the statutory planning processes. They need to know that a water-sharing plan, once it is commenced for 10 years with a statutory review at five years, will be within the terms stated in the plan. We need to know at 10 years that the undertaking of the Government's involvement will be met. We never have that feeling of certainty. We are continually exposed to a debate that rages about the environment.



Currently 100 per cent of people are concerned about the environment, but probably in New South Wales less than 1 per cent are actually actively engaged in practices that involve working day to day with the environment. We have 100 per cent of people really worried about the environment, as any person should be, and about 1 per cent who probably have some fair core knowledge on the environment. The politics of that is becoming more and more obvious; it is a great political game for people who work on the uncertainty and a lack of knowledge in the larger population. We have a commercial relationship with environment and we have greatly concerned population that has no real corporate knowledge and it is getting assertions thrown at it daily through the press. Our planning processes are continually opened up.

We need our planning processes to be shut for the stated periods of time. We do not lack any commitment to sustainability; we do not lack any commitment to good environmental outcomes. Purely in an investment sense we need to know that when we have agreed on certain processes, we have agreed on certain cutbacks and agreed on certain environmental aims meeting to be achieved that that is the deal, that is the process, that is the statutory planning process, and it shuts for a period of time. The biggest impediment we face is that; a continual roller coaster of planning. The Commonwealth's intervention into water has just opened that all up again for us. We saw drafts where the Commonwealth in the most deliberate way, section 250 of one of the earlier drafts, aimed to open up our plans at the five-year review period, just two years away.

They planned to open up those plans, insert new information in a way which escaped the compensation clauses, and deliberately so. It would have been disastrous for us. We need our statutory planning processes to shut, to stick to the terms described within and to run for prescribed periods of time. We share that in common with other agricultural groups. I hope in the Committee struggles you will hear about vegetation planning. I cannot talk about it, but other groups should talk about the Brigalow Bioregion process. I live in a community that depended on timber getting. The impact of that is very obvious in the community were live, at Wee Waa. We always doubted the touted replacement of tourism; and certainly it has not occurred. I am not here today to talk about that. I hope the Committee hears about it during its tour.

New South Wales, along with Victoria, has really stuck up in terms of the Commonwealth and negotiations for a national water sharing plan and the Water Bill 2007. We are very appreciative that they stuck to their guns on not opening up the compensation clauses in the plans, not opening up the plans for new information. That is a commitment that the governments gave, and we are glad they stuck to it. We were surprised of the attitude of the Commonwealth, but I will say that in negotiations that we finally managed to have, they were not on offer. We had to break our way into these processes. In the negotiations that were finally available to us we got the clauses removed from the bill and in return some sense of security in the statutory planning processes.

In terms of initiatives to address impediments in sustaining and growing agriculture, the obvious one to take up from what I am saying is that we need those statutory planning processes to stick to their terms and to stay closed when they are meant to be closed. On the positive side for the future, we need to operate with less water and we have accepted that; that is the reality. There are two things we need to do and tomorrow a tour has been organised for the Committee to look at efficiency processes in water. There is some pretty exciting use there. In the lower Namoi we have managed to achieve a 16 per cent gain in efficiency over the last three years, and we aim to do that again in the next three years.

That is through better agricultural practice, through better water practice, but probably the biggest on-farm incentive that is available to us for efficiency gains is reducing evaporation out of storages. We will look at some of that tomorrow. I might leave that until tomorrow because you will get a good look at that firsthand and we can talk about the technicalities of that then.

It is important for us as an industry that if we are to maintain that \$400 million and grow that \$400 million, we need to know that we can get some of the water back through efficiency gains. It is a return for the environment but in terms of what we use on the farm, we need to use it more efficiently and we need to get more out of it through not just letting it evaporate; that is a big issue.

The other one I want to touch on is new crops and value adding. It is a source of frustration that we sit on the verge of breaking into biofuels and alternative fibres such as industrial hemp but we never get there. There are impediments to those processes and the development of those industries that need to be overcome. The State Government needs to mandate 10 per cent at 2011 for ethanol and be a bit forgiving if there are issues such as drought along the way, but we need to get there so we can get these industries up and running. The other one I will nominate and then I will take some questions is that we would like to go to the Victorian model of regional development—the Regional Infrastructure Development Fund, and I table a document from its website for the Committee.

**Document tabled.**

In Victoria you can talk about a dedicated fund for biofuels infrastructure, for intermodal freight infrastructure, for stock overpass and underpass road infrastructure, for local roads to market infrastructure. I am not talking about going to all the respective portfolios; I am saying you actually go to Regional Development and you bring your issues forward. I believe they have \$180 million per annum for these projects.

Regional development needs a separate director general and it needs to be regionally based. It needs to get a return of the old Premier's special infrastructure task force but not in Premier's, in Regional Development, with links to the other agencies and a dedicated fund, with a stated purpose to bring some projects online, such as biofuels projects or to look at industrial hemp to see whether it is viable. I will stop there and take questions.

**The Hon. CHRISTINE ROBERTSON:** Can you give an explanation of the role your organisation plays in the agricultural industry in this region?

**Mr CLEMENTS:** We represent water entitlement holders. We are in some very difficult statutory planning processes so probably most of my time is taken up engaging statutory planning processes and legislative processes. I would rather be working on efficiency gains, which I do the rest of the time. Ten years ago the organisation would spend a lot of time with on-farm field days and new technology for water efficiency. We would spend most of our time doing that and looking at alternative crops. Ninety per cent of my time these days is spent just battling through the ever-renewed wave of legislation and regulation and potential changes and battling perceptions in the press in terms of statements that are made that are inaccurate. We would rather not be doing that. We would rather be working on efficiency gains on-farm and looking at new crops. I get very little time for that these days.

**The Hon. CHRISTINE ROBERTSON:** These are laws or regulations in relation to irrigation farming?

**Mr CLEMENTS:** The actual practice of farming and the business of regulating natural resource management of water in the system, water sharing plans, be it water bills from the Commonwealth or proposed statutory processes in New South Wales.

**The Hon. CHRISTINE ROBERTSON:** You actually work with government departments on implementation of regulation as a go-between the actual farmers or setting up objection processes? What exactly do you do?

**Mr CLEMENTS:** All of that. I make representation to government. We work with the agencies on administrative processes. We do not tend to work with them on policy processes. Our experience is that the agencies accept policy downloads so we tend to work at a more political level in terms of policy processes.

**The Hon. CHRISTINE ROBERTSON:** That is how the Parliament works.

**The Hon. MELINDA PAVEY:** You discussed the issue of green politics. If you were to ask 10 people in Martin Place, Sydney, today whether we should have a rice industry or a cotton industry in this country I suggest nine out of those 10 people would say we should not have irrigation.

**Mr CLEMENTS:** Yes.

**The Hon. MELINDA PAVEY:** You talked earlier about a 16 per cent saving in water in the Namoi Valley that you have achieved over the past three years and you are wanting to do that again over the next three years.

**Mr CLEMENTS:** Yes.

**The Hon. MELINDA PAVEY:** You are looking at a third of the saving of water in the valley. Why is there such a huge disconnect between the benefits of our irrigated industries and what they bring to New South Wales and Australia and the public perception of that in our major metropolitan areas?

**Mr CLEMENTS:** I have some pretty firm views on this. The particular brand of politics worked out probably around 10 years ago that you can harvest the disconnect, that if you can work over people who of their very nature are concerned about the environment you can get some political clout. The green parties in New South Wales have just worked that line for a decade and 100 per cent of people are worried about the environment but probably only 1 per cent are really actively involved in the environment.

It is not hard to work over the bulk of the population and work on their fears and concerns over the environment. That is what we see today. We see people who have no idea about cotton or rice; they have no idea about water usage. They have no concept, to be honest, about volumes of water and they never hear any of the good stories because that does not sell newspapers, and that is the position we have got ourselves into as a society. We have harvested the legitimate concerns of a lot of people and played politics with them.

**The Hon. CHRISTINE ROBERTSON:** I recognise that the Macquarie Marshes is not part of the catchment, but how do we deal with issues like the Macquarie Marshes, which is a fair disaster at the moment, while still endorsing the rights of irrigation farming, which we do? How do you propose the fine line between doing something constructive about the Macquarie Marshes while ensuring that our irrigation industries have enough to make a living?

**Mr CLEMENTS:** I do not think that is a split, for starters. I do not think the issue in the Macquarie Marshes could be put down entirely to irrigation. One of the great sources of frustration to the industry down there is that they cannot get the message through. Illegal diversions by graziers have been carried out down there on a huge scale that have been documented, photographed and filmed. The Department of Environment and Conservation does not like to look at it. The way you achieve the outcome is that you decentralise the decision making.

It is time the politicians took a stance and said, "We will trust regional communities in legitimate planning processes to make decisions." The marsh issue is not simply one of irrigation diversions; it is one of reed beds being destroyed by diversions of all kinds. We used to have something called a marsh warden. Gerry Peacocke's father was a marsh warden. He used to ride the marshes and instruct graziers to take stock of certain areas to allow the reed beds to regenerate. The marsh is now a series of channelised beds. Reed beds cannot live where the water just runs through a series of channels and runs out the end. It is a very complicated issue.

**The Hon. CHRISTINE ROBERTSON:** The description is really interesting, but I am trying to get a constructive recommendation for the Committee.

**Mr CLEMENTS:** Let the catchment management authority [CMA] there make the decisions. The CMA wants to make the decisions. It is not allowed to make the decisions. It struggles with agencies such as the Department of Environment and Conservation, which appears to have agendas other than the best management of the marshes.

We need to decentralise decision-making on these issues and we need politicians to start saying that they trust regional communities in these matters. You cannot run the Macquarie Marshes from Sydney. Dare I say that most of the people who exhibit concern over the marshes really do not understand what is happening in the marshes. You need a CMA on the ground; you need agencies that either have staff on the ground or just get out of the debate.

The marshes can be repaired; they can get those reed beds back into action. We can work on the issues of the inappropriate flooding of areas and killing of timber. We know what to do there—and I have been heavily involved in those issues over the years—but it cannot be done until somebody trusts the community there and the local management process such as the CMA to be allowed to make decisions. That is just not the case now.

**The Hon. MICHAEL VEITCH:** I am interested in your comments about the CMA. We have had previous submissions to the inquiry about their experiences with the CMAs. Can you talk through the Namoi Valley's experience with the CMA?

**Mr CLEMENTS:** Yes. Good, not shared by other valleys, I hear. We have a good CMA. We do not have any members on the board. We have actually asked our membership not to apply for board membership. We do not want to look like we have got inside running. We have a CMA that is open to engagement. It is looking at the issues, it is trying to deal locally and it is pretty fiercely independent, so our experience is quite good.

**The Hon. CHRISTINE ROBERTSON:** Which CMA is this?

**Mr CLEMENTS:** Namoi CMA.

**Reverend the Hon. FRED NILE:** You made a strong argument for decentralisation of the powers rather than just being centralised in the city. What level would you seek for that decentralised authority, the CMA level?

**Mr CLEMENTS:** I think the CMA for natural resource management. I was actually involved in the national action plan for salinity and something called PlanFirst, which you would remember, I am sure. We sat on the verge in New South Wales of going to a different style of planning process. The CMA was a demand from the Commonwealth in terms of NAP funds to go to a decentralised decision-making process. I think it is a great process. Not all the CMAs are great in terms of how they look and how they operate but the concept is great.

Craig Knowles, working with the Commonwealth, pushed the concept of local solutions for local problems. The concept is great. The practice in some places is good, in other places it is not, but I do not think you throw the concept of the CMA out because some of the application at the moment is less than professional.

**The Hon. CHRISTINE ROBERTSON:** How do you get equitable representation?

**Mr CLEMENTS:** That is a good question. I think we probably need to get to the point of electing some of the board of the CMA. In terms of equitable representation, any group that feels they are not getting heard cries lack of equity. You are in government, you know what that is like. At the end of the day if you have a good board with a widespread range of interests and the most important thing is that they are making decisions about their own community, their own economy and their own environment, I think you get the outcome.

**Reverend the Hon. FRED NILE:** You make a strong argument in your submission against centralised control.

**Mr CLEMENTS:** Yes.

**Reverend the Hon. FRED NILE:** Because you believe that is vulnerable to, as you call it, obvious political intervention through the Greens?

**Mr CLEMENTS:** Yes.

**Reverend the Hon. FRED NILE:** That is obviously your belief. Do you have any evidence in support of that?

**Mr CLEMENTS:** I think the Brigalow bioregion was a pretty clear case but in terms of our planning processes the water sharing plans went through an exhaustive and a really emotionally draining process at valley level for a number of years. All the players were there, including fly-in people from Sydney with the green perspective. When we signed off on those plans they went to a Minister, who had to get a cosignatory off another Minister—you would understand the process. To get the cosignatory he had to abandon the valley plans, make a Minister's plan, and certain regulations and processes in those plans, which are basically unworkable, but that is what it took to get the cosignatory of the other Minister. That would just be a very simple example of the failure of the process when you will not trust the regional community to make the decision.

**The Hon. MELINDA PAVEY:** Earlier you mentioned that the Namoi Valley used to have a turnover of \$400 million?

**Mr CLEMENTS:** Within the Namoi catchment economy.

**The Hon. MELINDA PAVEY:** When was that?

**Mr CLEMENTS:** That was 2002.

**The Hon. MELINDA PAVEY:** What is the current figure?

**Mr CLEMENTS:** There has been no current study but with drought I would not like to pull the current figure. I think it would be distorted by drought. If we were half at the moment, I would be surprised, to be honest, but the bulk of that is drought. I would like to get out of the drought and get back into some regular years and we could actually get a figure.

**The Hon. MELINDA PAVEY:** What is the way forward for the Namoi Valley? We now have the water sharing plans and the Commonwealth situation has been resolved. What is the future for the Namoi Valley and what do you need from government to go forward so that the \$400 million becomes \$500 million or \$600 million over the next four years with a third saving in water?

**Mr CLEMENTS:** I have confidence that we can do it and it is true efficiency gains in water obviously. Also, we need to get some value adding industries. We are too dependent on cotton, which had some difficult world market issues at the moment. I have no problem with cotton as a crop; it has been a great crop and it has created a lot of wealth and a lot of economic opportunity in this valley but we are too dependent on the one crop. I would like to see the biofuels industry pushed, but we have got such struggle with that. I could spend an hour talking about the problems of getting a biofuels plant up, but I think one way is a Regional Development portfolio with its own director general with a serious budget and planning co-operation in terms of bringing together other departments into an infrastructure-style process.

**The Hon. MELINDA PAVEY:** So it will go forward better by diversifying crop bases, from grain to meet the biofuel market?

**Mr CLEMENTS:** And possibly industrial fibres, such as industrial hemp. There is a lot of study to be done, but European laws demanding biodegradable panels in cars lend themselves to industrial hemp production. Not only will we have the infrastructure, the water and the capacity to grow it, but they are processes that need local processing, so you have jobs in the processing of the fibre into some form in which it can be transported.

**The Hon. MELINDA PAVEY:** Do we have the people to fill those jobs?

**Mr CLEMENTS:** Good question. We really struggle. I heard the Mayor's comments. I would share those comments. We need better planning and better training processes in our industry, so that parents firstly, and their children secondly, can commit to the industry. At the moment, it is pretty frightening for parents to let their children go into agriculture.

**Reverend the Hon. FRED NILE:** On the biofuel issue, you would be pleased that the Government has put in place legislation requiring 2 per cent ethanol in fuel, with a plan to take it to 10

per cent in a few years time. Does that give some of your producers the incentive to change crops from cotton?

**Mr CLEMENTS:** The big issue with biofuel is having a contract, having a sale. We have seen the oil majors get very interested because of the 2 per cent. I think 10 per cent would get them fascinated with the development of the industry. Of course, you would need provisions for drought, and you would need some leniency if you do not get to 10 per cent. But if they got a target of 10 per cent, there would be plants going up within a couple of years.

**CHAIR:** For your information, we will be taking submissions from a group called Demand Farming on Industrial Plant next week. That is something that we are looking forward to. Before we close, would you like to talk a little bit about groundwater in this area?

**Mr CLEMENTS:** It is saving our lives this year. We have no regulated water available, and groundwater is going to underpin any production we have. So the base production that keeps jobs going that meets the most meagre financial commitments will come from groundwater. This valley suffered a 50 per cent cut to achieve sustainability. There is a lot of uncertainty about whether that target is accurate in all places, but I am not going to argue that. That process is shut.

The most difficult issue associated with it is that the Namoi is owed \$70 million from that compensation program. That money is still not delivered. That is seriously hurting a number of businesses. We have 741 entitlements in that process, involving \$70 million. I have guys who get phone calls every day from their banks and they cannot answer the phone. That is not an overstatement; I am happy to put you in touch with those individuals. Those funds need to go out, or we are going to collapse businesses, which is happening now. We are, unhappily, able to document that. Groundwater is underpinning our production this year. We need the ASG funds to go out, or we are going to see business failure.

**The Hon. CHRISTINE ROBERTSON:** Why is it that you have the concept that it was the Greens alone that were arguing for the Brigalow bioregions?

**Mr CLEMENTS:** I do not have the concept that it was the Greens alone. But, in terms of two processes, I think RACAC was the committee that went up and made a recommendation. That recommendation got ditched. That was followed by the Sinclair report, which was just never released. I have seen a copy of it though. The recommendations of both those processes were entirely different to the outcome that was put forward in the end. There was a particular staffer who brought in an option from the Nature Conservation Council that was the final option. I had an intimate involvement in those processes, and we saw a deal done on that, prior to an election, that was different from the RACAC process and different from the Sinclair report. So, again, I say there is just too much of that going on in New South Wales.

**The Hon. CHRISTINE ROBERTSON:** So, in your mind, the only organisations or groups that fed into that decision were the ones that you have outlined?

**Mr CLEMENTS:** In the end, yes. Certainly, the Bruce option and the timber communities and the RACAC committee and the Sinclair report recommendations were not what was there in the end.

**CHAIR:** Mr Clements, thank you very much for appearing before the Committee this morning, and thank you for your submission. Also, thank you for helping with the site visit.

**Mr CLEMENTS:** I am looking forward to it. Thank you.

**(The witness withdrew)**

**LYNETTE JOYCE FRAGAR**, Director, Australian Centre for Agricultural Health and Safety, 33 Heber Street, Moree, sworn and examined:

**CHAIR:** Professor Fragar, in what capacity are you appearing before the Committee today?

**Professor FRAGAR:** I am appearing as the Director of the Australian Centre for Agricultural Health and Safety, which is a research centre of the University of Sydney, based at Moree.

**CHAIR:** Professor, would you like to make an opening statement?

**Professor FRAGAR:** Yes, I would, and thank you for the opportunity. While, as director of our centre, I have concerns about the impact of health and safety on the productivity of agriculture in New South Wales, the concerns that I would like to express here relate to sub-items (a) and (b) of item 1 of your terms of reference, relating to impediments to sustaining appropriate levels of productive capacity and initiatives to address those impediments. But they are not specifically and primarily relating to health and safety, although I will refer to those.

My concerns are that there is a severe impediment occurring now, and increasing, for agriculture in this State relating to the human resource in agriculture and the ageing of that human resource, and our dependency on a farmer population when more than half of the farmers and farm managers in New South Wales are aged more than 55 years, and in some industries higher. That means half of those in the farming community are basically my age and older. We cannot do things the way we used to do them. The way we respond to change, and the way we do our business, is part of our makeup. That is part of the problem.

The other problem relates to what I am sure you will have been hearing pretty much all long, and that is the growing and widening disconnect between farmers in New South Wales and the metropolitan citizens and decision-makers. I believe there are things that can be done to address that. However, that widening disconnect is having an impact on all of the decision-making that is happening, and the responsiveness of farmers and of policy-makers to that growing divide is part of the problem; they are not just part of the response, but they are part of the divide.

Other countries and other States have done things that are useful in bringing metropolitan communities and farming populations together to do something about it. We do not have in New South Wales a shared view about the value of agriculture to this State. We have the Government, and successive governments, which have responded really well to particular issues, such as drought, conservation, water and those sorts of things. I have no problem with the sorts of responses that have been happening in all of those matters, but it is responsive and reactive, and every time a problem comes up that requires that sort of response, like drought, farmers are feeling that they have to actually justify their existence. So we do not start with a shared view about the value of agriculture per se.

We can have differences of view about water, irrigation, and whether we should have agriculture in western areas at all. There are a whole range of things we could question, that we do question, and must be questioned, but none of the decision-making is based upon a core set of values with which we all agree. My recommendation basically relates to New South Wales taking the initiative and being the first State to work with key stakeholders in agriculture and say: We need agriculture; agriculture is valuable to us and needs to be sustained; it is not just of value to rural communities—which is the way that it comes through to me in the State Plan. There is in the State Plan a clear statement that agriculture is necessary for rural communities, but there is no statement that rural communities are important to the State.

This growing disconnect is a real and significant problem to the provision of a response. I quite like the way that the Scottish Government has dealt with it. It has actually got a forward strategy, stating right at the outset: We want a prosperous farming industry, one of Scotland's success stories, which benefits all the people of Scotland, and so forth. That came from a process of wide consultation. I am not suggesting—because Scotland is part of the European community and the United Kingdom—

that the issues that are then embedded will be different, but they do acknowledge the tensions between environmental issues and agriculture. All of those concepts are basically there.

New South Wales has every reason to be proud of its agriculture, and it is the State that should be proudest, in terms of value of production, in terms of volume of production, and in terms of innovation and diversity in agricultural production. I work with farming people in the course of the work that I do, doing projects that relate to training in health and safety. At the moment we have a project in which we are working with farmers in small groups right around Australia, looking at how to make life easier and work easier for older farmers. We are coming up with a resource manual for that. I work with them in reference groups for all of our industry development work for health and safety. So, in terms of the sheep industry, the dairy industry, the grain and cotton industries, beef cattle and horticulture, I work with farmers in all States.

I have to say, from my experiences of working with farmers, New South Wales has the worst disconnect of any of the States. Why is that? It might well relate to just the physical nature of the divide, because metropolitan people cannot readily travel a little way out and be part of rural communities, as can happen in Victoria. Part of it is probably historical. For whatever reason, it is my view—from working with young farmers, old farmers, progressive farmers, farmers who probably will not be in the industry much longer—that in New South Wales we have a pervasive sense of gloom on how people in agriculture relate to the decision-makers in metropolitan Sydney and New South Wales.

That is really the key thing I wanted to say. In the document I have provided, there is a little about our centre. As I said, it is a research centre of Sydney university and it is funded with a very small core funding through Hunter New England Health on the understanding that we provide a national service. We are the centre for Farmsafe Australia so we develop all the resources and material for Farmsafe Australia. That is on the Farmsafe Australia website. We have been very effective in a lot of the work we have done and in the achievements we have been able to make in terms of tractor and machinery safety, in terms of industry development and health and safety plans and in terms of establishing priorities for governments and industry to deal with.

We have had good funding from the Commonwealth's department of health to run some campaigns nationally. The Child Safety On Farms Campaign is one that is already showing results through reduced child deaths on farms. There is a range of activities and achievements that I have noted. I have explained to the Committee the context within which, from my experience of working with farmers, that is the basis for what I am saying today. On the top of page 6 there is a graph of the age structure of Australian farmers in 2006. The blue line represents the age structure in 2001; that is, the men and women who call themselves "farmers". The average of that was in the fifties and that has certainly moved higher and older in the intervening six years to the last census; whereas the green line, which is the age structure of employees, will have dropped because the numbers in each age category would have dropped.

That means over the next decade we will have a higher proportion of farmers who are even older and there are not the people coming behind who will be the brains and the key manpower, or human power, to do what is needed in agriculture. On page 7 you can see that we are very concerned about the safety issues for people in agriculture. On page 7 there is the accidental death rate for older farmers and farm managers, which is more than double that for younger people doing the same work. That is a concern. That does not include suicide deaths, it is the accidental non-intentional injury rate. Listed are the changes that happen as we get older.

The changes at the bottom of page 7 include loss of stamina, energy, power of concentration, joint pain, stiffness, ability to adapt quickly, memory, concentration, and night vision. All of those happen to all of us as we get older. We have fit farmers who are old, but our work with older farmers indicates that they are all experiencing those changes. Therefore, whatever we want to do to help them make changes for the good has to acknowledge that this is the main workforce that we have and that we will have in the immediate future in agriculture.

The farmers that I have talked to are not, by and large, clinically depressed. When I talk about a sense of gloom I am not talking about people who are not themselves personally optimistic. Most of the farmers I am talking about are personally optimistic, but they are despondent about the



future of the industry and what is happening and the ability to participate in decision making. On page 9 I have noted impediments relating to record keeping needs. I am sure that others have dealt with red tape and I do not want to go into that much further.

On page 11 I have drawn attention to the growing physical and social isolation of farmers across Australia, and in New South Wales, that is added to by what we are talking about as "that divide between metropolitan and farming people". We have undertaken two projects that are relevant to that. First is the Pressures of Farming Project that we did in four shires in north-west New South Wales. At the request of farmers we surveyed them and had focus groups asking about the most difficult business pressures, family pressures and individual pressures they find in running their farm. They were able to report quite consistently on the issues and pressures that they are finding hardest to deal with. On page 12 there is the adverse affects that they are having that clearly impact on productivity and prosperity in terms of their farm businesses. That is quite clear.

**The Hon. CHRISTINE ROBERTSON:** The Committee held a hearing in Sydney in relation to the support processes set up by the drought council. While the Committee is working through the information you have put together, it could possibly be extended by the State Government. Do you have any ideas on that? It would appear to add to what you are saying that the role of farmers has fallen into whingeing and charity, so there are drummers and city people will come forward with some focus, but there is not an ongoing powerful role. One issue is that we have been able to reinforce the importance of the drought support workers, because everyone feels sad for farmers.

It would appear from a lot of the information that the Committee has received in this inquiry that massive changes are occurring in the farming industry. Of course change creates depression. Do you have any suggestions for the long-term support structures in farming communities in this process that the State could participate in?

**Professor FRAGAR:** I think that the State should be leading in bringing people together to make an agricultural policy within which the whole issue of connectedness is addressed for the long term as a key issue. It is not just a temporary thing, it will get worse. I do not think it would be appropriate to have a knee-jerk response and reaction to what is needed. It needs a far more careful look and needs to look at the existing organisations, frameworks and structures and look at what can be built upon. Clearly it needs to look at the immediate needs of older farmers, but also incorporated in that it needs to set up professional opportunities for interaction for younger farmers.

At the moment we have agricultural political organisations, but we do not have a professional organisation that young farmers, who are not professionals, can become part of. I see that professional connectedness between each other as well as social connection between each other and the wider community and the city, that all needs to be carefully thought through in terms of what is required. In the immediate term the drought support workers or a similar role need to be maintained. At the moment that is one of the few opportunities available to bring people together.

**The Hon. CHRISTINE ROBERTSON:** Do you have any idea what that should be called, so that we can deal with this issue that put them there?

**Professor FRAGAR:** Not the drought support workers? I think "agricultural community development worker" or something like that, that gives them a job description.

**The Hon. MELINDA PAVEY:** That sounds good.

**Reverend the Hon. FRED NILE:** In your opening remarks you said there is no overall agricultural plan for governments to keep responding to problems. You said we need a core set of values. Do you have that core set of values in your paper?

**Professor FRAGAR:** No, I do not.

**Reverend the Hon. FRED NILE:** Have you tried to draw them up?

**Professor FRAGAR:** If I were to do it I would defeat the purpose of what I am saying. It needs to bring together farmers, farm women, people who serve agriculture, rural community people and decision makers to work out what we want of agriculture. I look at the headline issues in the Scottish document and think it would be wonderful to have some of those things. It talks about Scotland needing a "successful profitable farming industry and that the food and drink industry is one of Scotland's natural strengths; success depends upon us been amongst the best". Whoever heard of New South Wales Agriculture being the best? We do not even have those words.

**Reverend the Hon. FRED NILE:** During the Sydney Royal Easter Show we do.

**Professor FRAGAR:** But it is sort of tacky. It is a one-off thing, it is not a clear statement of commitment with bipartisan support that says that we in this State value agriculture. Whatever the words are, they will not be the Scottish words, they will be our words. I am sorry to sound so passionate about this.

**The Hon. MELINDA PAVEY:** It is wonderful to hear it.

**CHAIR:** All that is well and good and I agree with you, but the bottom underlying matter I come up with is: How do we keep our farmers viable so we can get younger people wanting to stay on farms, to have that advantage? At the moment I, as a farmer, cannot encourage my children to stay on the farm because the reality is that there is not a return there for them. They are looking for other things. How do we keep those people viable, to keep that age group down and get younger people in?

**Professor FRAGAR:** I am not an agricultural economist. On the other hand, I have observations about how other professions keep their people and what makes people feel good about where they are. It is not all about money. I am a medical practitioner. We go through bumpy rides about how the world views medical practice, but by and large we get a whole lot of satisfaction from doing a good job, from the innovative things that happen from time to time that get coverage, and we have a very strong professional organisation that keeps us going and helps us keep up our continuing medical education and whatever. Most other professions see themselves as part of a vibrant profession. It is not just about politics in organisations, it is about doing better.

One of the key things I spoke about is what is needed for younger farmers, which comes out of discussions we had with some focus groups with younger farmers. They really value the opportunity to come to a focus group. They were younger farmers, that is younger than 45, and they really valued that time sitting around the table, because it was the first time they had come together in their own communities as younger people who were sharing a different view and a set of goals. They shared that and they shared ideas, but they could see that there were new ideas. Most times their fathers spoke for them.

Basically they do not see themselves as part of a profession that needs to be connected so that they can get positive reinforcement when they are doing excellent things or coming up with new ideas. You get that to some extent in isolated benchmarking groups for agriculture. We are doing a lot of work on safety matters in those business-benchmarking groups, but they have isolated themselves from one another. If we could only get into a process of saying that we are going to set a high value on agriculture and not just be reactive, that will help grow the professional networks and organisations. That would be an important part of the answer to your question.

**The Hon. MICHAEL VEITCH:** Do you think that agriculture as an industry is suffering from a loss of status compared to other industries such as mining? We no longer ride on the sheep's back, so to speak.

**Professor FRAGAR:** It has been a sense of a loss of voice, and clearly for older farmers. My dad, as a farmer, had some status in a local community being a farmer. That sort of status is not there anymore. My own sense of working with farmers in New South Wales is that that is not what they are yearning for, but they want to know how to communicate, how to have a voice and what has happened to their voice. When they say something, it is always in response to something that has gone wrong or they have to defend a position. They do not actually have an opportunity to participate in the development of the industry. It is that voice that I think is more important.

**The Hon. MICHAEL VEITCH:** The other question relates to innovation. One of our terms of reference is to look at innovative practice. As people become older, particularly the farming age demographic, they are less likely to undertake an innovative practice?

**Professor FRAGAR:** No, I disagree with that entirely. In my experience, regardless of the age of farmers, farmers will pick up an innovation and go with it if they see evidence of effectiveness. That is what it was like a decade or so ago. There has been a whole shift now but the people who are there are pretty much in viable businesses and they will take something on if they see evidence of its value. Without the evidence older ones may not be the first ones to try an idea but they will certainly move with it. Others are still very innovative.

**The Hon. MELINDA PAVEY:** Thank you very much for your evidence here today. It is wonderful to hear someone speak so positively about agriculture. I think you are on the right track. I read from a submission I received from the Department of Environment and Climate Change about New South Wales agriculture and Australian agriculture declining as a share of overall GDP, in a sense, putting agriculture down. In terms of financial impact to the Australian economy, without agriculture our terms of trade and our lifestyle would be seriously diminished. You mentioned the safety of Aboriginal workers as part of your programs and work. Given that many of the social issues within regional New South Wales pertain to Aboriginal people and their socio-economic position, do you have any thoughts of ways we can better communicate and work with the Aboriginal population to encourage them to work on our farms and with our industries, given the problem of the skills and jobs shortage?

**Professor FRAGAR:** I am probably not the best person to make comment on that, as I do not have a strong experience in that. On the other hand, in Moree I think we have seen a dramatic change in terms of Aboriginal participation in the workforce resulting from the cotton industry taking an initiative and saying, "We will have an Aboriginal employment strategy and encourage Aboriginal people to participate." Our role has been to assist Aboriginal people to get access to safety information and to help employers of Aboriginal people ensure that they are communicating in an effective way on safety issues for Aboriginal workers.

We have recognise that you do not necessarily do things in the same way and people do not necessarily hear things in the same way, similar to market gardeners in the Sydney Basin. It is a superb industry going on in the Sydney Basin with the market gardeners there, but the way we do our extension work and safety promotions has to be done in a way that is appropriate to their language, culture and understanding. I am probably not the best person to respond about employment opportunity.

**The Hon. MELINDA PAVEY:** With respect to young farmers and ageing of the farming community, are young farmers looking at the price of land and saying, "I will never be in a position to afford a farm or reach the point in my life where it is a viable income for me and my family", given the recent large increase in property values?

**Professor FRAGAR:** I have not had conversations with young farmers on those issues. My observation in our area is that the rapidly rising price of land is making it pretty impossible for existing farmers who want to enlarge by getting the property next-door when comes up for sale; it is taking it beyond their reach. I imagine if that is the case elsewhere, that would be the case for young and old farmers, not just a young farmer.

**The Hon. MELINDA PAVEY:** Are people seeing one way around the cost of land by leasing or share farming?

**Professor FRAGAR:** I cannot speak for New South Wales. I know that in some of the other States where we have been talking that has been a common response.

**CHAIR:** Would it be possible to get a copy of the Scottish reference that you mentioned?

**Professor FRAGAR:** Yes.

**Document tabled.**

**CHAIR:** Page 13 of your submission outlines some suicide statistics for the States. Has anybody done any surveys of the regions or particular areas?

**Professor FRAGAR:** No, the only data that has been produced about farmer suicides using the database is our own centre, the National Farm Injury Data Centre. We have not gone down to smaller than State level, and even there these are crude rates and the reason is that the numbers would be too small to be useful. They would be statistically invalid.

**CHAIR:** Thank you very much for your evidence and submission. If the Committee has further questions, I ask that you answer them by 21 September 2007.

**(The witness withdrew)**

**ROBERT JOHN MARTIN**, Director, Primary Industries Innovation Centre, University of New England, Armidale, New South Wales, sworn and examined:

**CHAIR:** Would you like to make an opening statement before we go to questions?

**Professor MARTIN:** Yes. I represent the Primary Industries Innovation Centre, which is a joint venture between the New South Wales Department of Primary Industries [DPI] and the University of New England. I am actually on day three of my full-time appointment, which is why there could be some confusion with my directing at Tamworth and this new role. In this role I actually do spend half my time at Tamworth and half at the University of New England, so I am still responsible for the activities going on at Tamworth.

I heard some statistics mentioned earlier, but from the 2005 statistics there is about \$2.9 billion worth of agricultural productivity in the region and that is about 34 per cent of the State. Roughly 60 per cent of that production is broad-acre crop and 40 per cent is livestock production. The interesting thing for me is that looking at those figures, 94 per cent of our production in this region is actually from broad-acre and only 6 per cent is from the intensive livestock and horticulture industries.

The main focus of the Primary Industries Innovation Centre [PIIC] and the DPI centre at Tamworth is on research and extension in agriculture. I will just talk about Tamworth in particular and our programs cover plant breeding. We are the national centre for the durum and chickpea programs. We are looking at genetic constraints to productive capacity. This is to do with suitable varieties or access to molecular technologies. I should also add at this point that our main motive at Tamworth is on the cropping industry and other DPI locations at Trangie, Armidale, Grafton and so on, focus on the livestock industry. Tamworth primarily focuses on broad-acre agriculture, crop production in the New England north-west.

The other major issues that have concerned our research, particularly over the last 20 or 30 years, is sustaining the natural resource base, declining soil fertility, soil degradation and water use efficiency, particularly in dryland situations. We also have significant programs looking at the risks to agricultural production, in our case particularly in relation to plant diseases. Over the past 10 years a significant component of our work has been addressing climate risk management, climate variability, which is now increasingly concerned with climate change.

With PIIC becoming involved, and with the university, we now have greater scope to look at other issues, like access to markets, transport infrastructure, market information, trade barriers and the like, inadequate financial instruments and taxation incentives, and new technologies. With the university, we now have a strong connection with the Centre for Agricultural Law at the University of New England. We have already been successful in funding projects in that area in connection with agricultural law. In one of those was a climate action grant looking at alternative biofuel technologies.

Lastly, are the socioeconomic constraints, age, gender, farm size, succession planning and so on. With the joining of the forces between the New South Wales Department of Primary Industries with our strong extension network with the University of New England, which has strong socioeconomic activities, I think we can do a lot of good with this joint venture.

**The Hon. MELINDA PAVEY:** What percentage of your research centre's income is from the private sector?

**Professor MARTIN:** I will just speak on behalf of the Department of Primary Industries, Tamworth, because I have not looked at the University of New England figures, but 58 per cent of the funding of the Tamworth centre comes from government sources. We have an operation budget of around about \$14 million, with 58 per cent now coming from government and 42 per cent now coming from external sources, like the Grains R & D Corporation, cotton and other industry funding bodies. This has been progressively changing over the years. Thirty years ago the target would have been 25 to 30 per cent external funding. I am not sure what targets there are these days, but I expect that trend will continue into the future.

**The Hon. MICHAEL VEITCH:** Professor Martin, what do you think will be some of the challenges facing agriculture in its long-term future?

**Professor MARTIN:** The broader challenges for us in this region are pretty similar to those in the rest of the State, and I guess the rest of the world. The biggest issue at the moment obviously is climate change. Other major issues for our region include water, and water use efficiency. I guess with PIIC, we are going to be looking at issues that go across the major industry sectors. There is a lot of effort, especially in this region, going into grains and cotton in particular. Some 75 per cent of research funding we get at Tamworth from external sources comes from the grains industry. I think we need to be looking at better coordination of effort to address the global issues that go across the industry sectors.

**The Hon. MICHAEL VEITCH:** Do you think there are some opportunities from climate change that may arise for this part of the State?

**Professor MARTIN:** First of all, as background, the work we have done at Tamworth over the past 30 years I think has put us on a good standing, because we have been looking at helping farmers manage their properties in a variable climate. If more farmers adopted no-tillage, which helps store more water in the soil and also reduces surface temperatures in the soil, we would be able to go a long way to dealing with the projected climate change scenarios for this region in 2030. The biggest threat may be to our summer crops. Some modelling work has shown that the climate change scenario may not have a major impact on winter cropping systems, but in summer, with higher temperatures and less rainfall, we are looking for opportunities with different summer crop species and moving them around during the summer window to avoid the hottest part of the summer.

**The Hon. CHRISTINE ROBERTSON:** The terms of reference for this inquiry—and I guess Professor Fragar changed them a bit in the in the last session—relate to agriculture and the economy, and now we are going to start saying the State of New South Wales rather than individual regions. The research component of agriculture over the past few years has seen some toing-and-froing. Just how vital has the Tamworth Research Centre been, and will it be, to the long-term economic future of agriculture in New South Wales?

**Professor MARTIN:** I did not bring any figures with me, but our department and our economists have done some significant studies over the years. The one that was done with the work at Tamworth was the value of the work that was done in relation to developing no-tillage and conservation farming practices, and that brought up some very significant benefits. That is doing a benefit-cost analysis, with and without scenarios. That has been extremely promising.

**The Hon. CHRISTINE ROBERTSON:** Could we ask you to get that paper to the Committee for our consideration?

**Professor MARTIN:** Certainly.

**The Hon. CHRISTINE ROBERTSON:** How much of your research is pure research?

**Professor MARTIN:** I noted that you asked the question of Professor Deirdre Lemerle, who is my counterpart at Wagga Wagga. I would agree with her: it would be round about 15 to 20 per cent.

**The Hon. CHRISTINE ROBERTSON:** What do you mean by applied research?

**Professor MARTIN:** What do we mean by applied research versus basic research? At Tamworth we had a significant discovery and patented technology to detect weeds individually as the spray boom passes across the ground. That technology enables a reduction of in the order of 90 per cent in the amount of herbicide applied to a field. That technology did not exist before that work was commenced in the 1980s, and it required the reflectance technology to be able to discriminate between green against browns and greys and whatever other colours were seen by the sensor.

The innovation was that this discrimination could be developed by looking at the difference between red and the far red spectrums of light. That then enabled further development. We had a patent on this technology, but patents are particularly difficult to defend, particularly by a public

sector organisation. The technology was developed in the United States, but it is now being used and sold in this region by a local company. Where we have a very much practically applied problem, but there is not technology there to solve that problem, I see going out there to discover that new technology as basic research.

Some of our farming systems work really does not involve any basic research. But, in other areas, we have people working on the molecular basis for resistance in insects in the cotton industry. Dr Robin Gunning, based at Tamworth, recently has been able to take out a patent with her Rothamstead Collaborator to develop this technology, and that is going to be taken up by a company in Italy. I see that also as basic research, but again it is dealing with a very applied problem: How do you manage resistance in the cotton industry.

**The Hon. CHRISTINE ROBERTSON:** I think that clears that question up for the purposes of our inquiry. Thank you very much.

**The Hon. MELINDA PAVEY:** Following up on that point: Has the Tamworth institute been able in the past to sell its research to other agricultural companies throughout the world and in Australia?

**Professor MARTIN:** We do not actually sell. I think the better word would be to say we collaborate, particularly with private agronomists in the region. I would rather answering by saying that to get our technology out to farmers—where we need to get it—during the last 10 to 15 years we have been using more of a participatory approach in order to have researchers and extension people, farmers and agricultural consultants, working together right at the beginning of the research program, as a partnership, to make sure that any problems with the technology are sorted out, particularly from the farmers' point of view, before the research progresses too far. That sort of thing has been very strongly supported by the Grains R & D Corporation\* in particular. We are now in the third round of a project that does that collaboration. In this case, our farming systems program now is actually coordinated from the private sector, and we are the junior partner in that area. So I think it is a matter, not so much of selling, but of collaborating with the other players in the industry.

**The Hon. MICHAEL VEITCH:** Professor Martin, during our hearing last week Professor Archer spoke to us about agriculture using native species, both plant and animal. Has your centre been doing any research in that area? Do you have any views about this?

**Professor MARTIN:** Well, not with kangaroos. Over the last 20 years or so, beginning in the mid-1980s, there was a strong interest in developing and domestic native grass species for pasture for a whole range of reasons, including that they are adapted to the variable climate in Australia, and obviously have evolved under the drought conditions that we periodically have. Dr Greg Lodge's program was successful in developing and domesticating two different varieties of wallaby grass, danthonia species, and these were commercialised. One of the big there was, and still is I think, the cost of seed. That is probably the major impediment to going further with using native grasses. But there are quite a range of native grasses, including kangaroo grass and other species, that can be suitable, not only for more resilient pasture for agriculture but also for other uses in landscaping and amenities. There is a lot of potential there. But our main interest at Tamworth is in crop and pasture development, rather than in livestock.

**CHAIR:** If I could ask you a question on the drought. What can farmers in New South Wales do now to better prepare for drought in the future? And how much research conducted by the Tamworth Agricultural Research Institute is aimed at addressing drought issues?

**Professor MARTIN:** As I might have mentioned earlier, over the past 30 years we had a major focus on developing no tillage and conservation farming practices. Initially, when we started that program in the late 1970s, the major focus was to reduce soil erosion from excessive cultivation, but we very quickly realised that one of the benefits of no tillage or zero tillage is water being stored in the soil. The adoption of this technology varies across the region from 15 to 40 per cent. In some areas including the Liverpool Plains and Walgett there has been significant adoption of those practices.

We need to find ways of getting all farmers on board with this technology, because that is probably the strongest way to deal with the problem. It is all about drought preparedness and being able to continue farming, even in the face of significant drought events. Some farmers, even out in the Burren Junction area, when I looked at a property there, had successful crops of chickpeas in 2002. The yield might have been a little lower; I think it was only 1.5 to 2.0 tonnes per hectare, but in drought times prices are often higher as well. Those farmers made average or better-than-average income during 2002. Also, 2003 was not much better for many farmers.

At our institute in Tamworth we were able to achieve record yields; for example, 4.0 tonnes per hectare for chickpeas and more than 5.0 tonnes per hectare for wheat. Under rainfall conditions they were very much below average. That is all to do with being able to conserve soil moisture in the deep clay soils that we have in the region and use that as a buffer against drought. The thing we need to do is to find ways of getting through to the other percentage of farmers who have not adopted this. Because we have considered that to be so important, we held a major conference in Tamworth two years ago. In the lead-up to that conference we held a number of focus group meetings with farmers to find out their constraints to the adoption of no till and conservation farming practices.

The farmers in those focus groups, who were predominantly men, came up with a long list of technical reasons why they could not do that. It might be because of rocks, red soil, or a whole range of things. As part of that process we also selected 12 case studies of farmers who have been successful in adopting those practices. We took them from a low rainfall, poor soil area from Nyngan through to Collarenebri and also into the high rainfall areas. In all those case studies we found that those successful farmers had overcome pretty well all the technical constraints that were listed. In the process of talking to those farmers involved in the case studies, we discovered also that most farmers had a very significant role played by the female partner in running the business; actually running the farm office.

We have now managed to talk one of our people into doing post-graduate studies to follow that up—do we need a different extension approach to address this problem? We traditionally do a field day, the research update, bus tours, and so on. All of those audiences are very much male dominated. With the increasing role of women in the farm business we are starting to worry about whether some of our traditional audience might just happen to be the tractor driver rather than the operator of the business. We want to pursue this. In 2008 at the University of New England someone will look at these constraints, and very much in particular how much the role of women on the farm has changed in recent years. In addition, is this an avenue for us to find a new way into the adoption of some technologies?

**The Hon. CHRISTINE ROBERTSON:** Of course it will not just be for women, it will be joint, will it not?

**Professor MARTIN:** We will have to maintain gender equity.

**The Hon. MELINDA PAVEY:** Professor Martin, the Government has a limited supply of dollars for research. Could we do more work through more investment from the private sector and/or through government? Are we adequately researching agriculture in New South Wales? Should we aim for more?

**Professor MARTIN:** About 75 per cent of research dollars at Tamworth, the external component, comes from the Grains Research and Development Corporation [GRDC]. I have been there for 10 years and it was 80 per cent when I started and I have been trying to get that down. I am not trying to get GRDC down, if we want to keep GRDC up and continuing to increase investing in our work, we are going to have to try to find other sources of funding. In doing that there is a range of Commonwealth sources of funding. With that new collaboration with the University of New England there is greater access to the Australian Research Council Funding, which we will pursue. Also, we need to look at other activities.

We have a major initiative at the moment with funding into the lignocellulosic pathways to developing biofuels. There are opportunities with companies that are starting up in that area. The problem might be that they are looking for money and we are looking for money at the same time. There are definite opportunities for collaboration in that area with the move of BHP Billiton looking at



exploration for coalmining in this region; that is possibly another source of funding that we should pursue for win-win solutions in that area as well.

**CHAIR:** Thank you for your submission and for giving evidence on this important issue.

**(The witness withdrew)**

**BRUCE STEWART GARDINER**, Liaison Officer, The Rural Block, East Oaks, Uralla, sworn and examined:

**CHAIR:** What is your occupation?

**Mr GARDINER:** I am an agricultural economist with the Border Rivers-Gwydir Catchment Management Authority. I am here today in a private capacity as the liaison officer with The Rural Block, a not-for-profit political lobby organisation of two people.

**CHAIR:** Would you like to make a brief opening statement?

**Mr GARDINER:** Yes. When I read the terms of reference for this inquiry, two questions immediately arose. First, whose prosperity are we talking about? While it is unambiguously true that increasing productivity in production in the agricultural sector benefits the economy as a whole, there are serious equity issues with the way that benefit is redistributed. There is serious evidence to suggest that a zero or negative amount of that benefit flows back to farmers. The second issue that arose for me was how to achieve those particular outcomes.

That is mostly to do with a lot of market failure issues to do with the way we look at performance in agriculture, particularly at the economic level of agriculture where we tend to study more the efficiency of production in terms of costs that we can attribute to farming now rather than some of the social and environmental costs attached to increasing productivity in the face of prices declining faster than prior to the increases. The idea of "terms of trade" was mentioned earlier. Terms of trade does not cause anything for farming, it is a measure of the fact that prices for agricultural products are falling faster than the costs of doing the job. That is to do with the demand for agricultural products, not the terms of trade. Basically, that is my position.

**CHAIR:** What is The Rural Block? How is your work relevant to the Committee's terms of reference?

**Mr GARDINER:** The Rural Block established itself about seven years ago. A friend of mine and myself found we had too much surplus money from our employment so we set up a lobby group to spend some of that money. We spent a number of years travelling between Armidale and Canberra trying to convince politicians that there was serious benefit to agriculture, and actually understanding that current agricultural policy with its emphasis on productivity gain was causing some serious environmental problems in rural Australia. Unless we had some policy in place that allowed the productivity gain to be offset by some form of Federal support for farmers to achieve environmental outcomes, agriculture would eventually fail simply because of lack of profitability and the rundown of the natural resource.

**CHAIR:** So the Committee saved you some money by coming to Tamworth?

**Mr GARDINER:** Well, we spent a number of years doing this. We found that we had three different approaches to the way we were to lobby. First, was the political theme to try to get politicians on side. That did not work. We then went to the policy side and tried to get involved with different State Government policies that were being developed. That seemed to work until it actually got to the point where they started writing the policy and then politics took over again. The third string in the bow has been education. As part of that I have written the socioeconomic modules for the sustainable grains production course at the University of New England. I have been approached by the grazing unit there to write the socioeconomics for the grazing industry as well.

**The Hon. MELINDA PAVEY:** What percentage of Australia's farming is consumed within Australia, and what is exported?

**Mr GARDINER:** Depends on whether you are talking about volume or value. In terms of volume, 65 per cent of Australian agricultural production is exported. In terms of value, it is 35 per cent.

**The Hon. MELINDA PAVEY:** In your expertise and knowledge has profitability of the grain sector, the cotton industry and the rice industry, increased?

**Mr GARDINER:** No. As a general trend, the last 50 years of data for agriculture in Australia shows that over that period production has tripled. The real gross value, which is the actual purchasing power of the total income generated from agriculture, has remained the same. Profitability is now one-third what it was in 1965.

**Reverend the Hon. FRED NILE:** What is the main reason for that?

**Mr GARDINER:** It is to do with a process called elasticity of demand. Once the demand for a product becomes inelastic, which it has for Australian agriculture since about 1975-1980, the more production is increased, the less the total value.

**Reverend the Hon. FRED NILE:** It must be only happening in certain areas of agriculture?

**Mr GARDINER:** No, it is general, right across agriculture. There are a few what we call sunrise industries. All agricultural industries go through the same process. They start off small, demand elasticity is high, prices are high; they are profitable. As more and more people take on those industries, elasticity falls. The increase in production generates less and less additional income until you reach a point where any further increase in production actually leads to decline in income from those enterprises.

**Reverend the Hon. FRED NILE:** The retail prices are not going down, such as Coles and Woolworths, but the farmer is getting less for his products?

**Mr GARDINER:** I do not want to get too tied down in this debate but there is some very interesting stuff out there. We have in Australia what I call a relatively free economy, but if there were any massive amounts of profits to be made in any sector within the economy, people are free to enter into those sectors. If the supermarkets were making extortionately large amounts of profit from the business of selling rural products, I am pretty sure that there would be other people out there helping themselves to small chunks of that extortionate profit.

If you look at the last result for Woolworths, for example, \$1.3 billion profit, it sounds like a hell of a lot of money. How much product did they turn over to make that amount of money? They turned over \$45 billion so they made 2.5 per cent on the amount of turnover. If you go to organisations like Landmark and Elders Rural you will find that their margin on turnover is roughly 2.5 per cent. They are not huge margins. The problem that we have in Australia, looking at why agriculture receives so little and other people appear to receive so much more, is that to keep on increasing employment when the bulk of that employment is in the service sector you have to find increasingly more complex ways of servicing products so that people can make money out of it.

**The Hon. MELINDA PAVEY:** What do you mean when you suggest that agriculture receives nothing and the service industry receives more?

**Mr GARDINER:** Gross domestic product in Australia over the last 50 years has quadrupled in real terms. The total amount that agriculture receives has remained stagnant while other sectors have had—

**The Hon. MELINDA PAVEY:** Does that not describe the Australian economy, that even though the percentage share of GDP is not as large as it was say 50 years ago in agriculture, we are actually expanding our economy? It does not necessarily mean that the monetary value of agriculture has decreased?

**Mr GARDINER:** I agree entirely. That was the point I made earlier on. Expanding agricultural production is unambiguously good for the economy. The problem that I have with it is that there is this lack of equity in the redistribution of that additional wealth. You either take a position that back in 1965 agriculture was making four times what it was really worth and the rest of the economy has finally caught up or you make a decision that back then agriculture was making about

what it was worth and now the rest of the economy is four times ahead of it. It is an equity-type argument.

The serious consequences of not addressing that equity issue is that agriculture then survives by using a number of other mechanisms which are not sustainable in the long term. The other mechanisms that they use to survive in the face of declining profitability are that they run their natural resource down. If you look at the State of the Environment Report 2001 average soil loss across agricultural Australia was five tonnes per hectare. If you look at the State of the Environment Report 2006 average soil loss across agricultural Australia was six tonnes per hectare, so over a five-year-period we have increased soil loss by 20 per cent despite all the changes in agricultural management practices that have been associated with it.

The problem is that with all of these things we end up borrowing from the future. We mine the natural resources so that future generations have less of that available to work with. We go further into debt. I am incredibly concerned at the level of debt in Australian agriculture. At the moment debt is about 1.7 times the gross value of production. Most of the research associated with benchmarking indicates that once debt to total income gets to about two in agriculture, that is terminal. We have gone from a situation 20 years ago where debt was about 0.4 of total income to a stage now where it is 1.7 and that debt is increasing very dramatically.

**CHAIR:** How do you keep agriculture viable?

**Mr GARDINER:** My job is actually doing property management planning for farmers. I have done about 2,500 individual property plans over the last 12½ years. It is giving farmers tools that allow them to work out whether what they are achieving from their farm business is optimal. The biggest problem we have in agriculture is that we keep pushing the productivity of agriculture and aiming for maximum production whereas the real issue is aiming for some mix that sits us somewhere between long-term sustainability and optimal production, which is the level of production that maximises the profitability of the business.

**CHAIR:** Do you mean we should diversify or we should cut production?

**Mr GARDINER:** The situation is different for all farmers. There is no one single solution that fixes things up for all farmers. Some farms are working well and some farms are not working very well. If you look at my particular personality type—if you have done a Myers Briggs type indicator—then I am heavily down the intuitive end. I look at big pictures, big patterns, and collecting large amounts of technical data and compressing them into a few basic principles of management.

Over the years of developing property management planning stuff, we have come to the point that there are basically six principles of land management that are common to all industries, all agriculture. If those six basic principles are not being achieved, then we are trying to overcook the landscape, we are trying to produce more than it will sustainably produce.

**The Hon. MELINDA PAVEY:** What are those six principles?

**Mr GARDINER:** We have to have at least 70 per cent ground cover. I prefer much more but 70 per cent is the inflection point at which runoff starts to increase dramatically and if we are losing water to runoff, then Bob Martin will undoubtedly tell you that that is water that is not available for growing crops. We need at least two tonnes per hectare of litter to slow down rates of evaporation because if you have bare soil, it will evaporate huge amounts of water.

We need to pasture systems. We need at least 1,500 kilograms of green, dry matter in pastures and 1,500 kilograms is 100 per cent ground cover, 100 per cent green by about 50 millimetres tall. If you drive around a lot of the tablelands at the moment you will find that about 98 per cent of the landscape fails on that criteria. The reason you need that is because at 1,500 kilograms, photosynthetic efficiency is maximised. Agriculture is a manufacturing business that makes its money from capturing energy so you have to have a system in place that maximises that.

The other thing about 1,500 kilograms is that once you go below that, then livestock cannot consume enough pasture in a day and process it in a day to achieve 90 per cent of their genetic

potential. What you will find with most of agriculture, if they get these bits right, then everything else in the system comes together. The fourth thing you need is diversity of species so that every time it rains there is something growing. You need shelter because from what we know about pasture systems once wind speeds reach a certain level, pasture productivity diminishes dramatically. Insufficient shelter also has serious impacts on livestock performance.

The last thing we need is a balance of soil fertility because if you do not have a balance of soil fertility, then plants actually use most of the energy that they photosynthesise, exuding carbohydrates from their root system to try to get those nutrients back out of the soil. Those are the six key principles of best management for agriculture. It does not really matter too much what sort of agriculture you are in; whether you are doing horticulture on the North Coast, growing wheat in the north-west or running sheep across the tablelands; those things are pretty much not negotiable.

**CHAIR:** What about marketing?

**Mr GARDINER:** The way that I look at marketing for most producers is to identify which market they are trying to get their product into and what their customer is looking for when they put that product on the market. For example, up on the tablelands at the moment average beef production is 0.7 of a kilogram per day. The potential is 1.3 kilograms per day. It actually costs 40 per cent more feed, more pasture, to put a given amount of weight on an animal at 0.7 kilograms a day as it does at 1.3 kilograms, so if you worry about marketing, there is a hell of a lot more money in not wasting pasture than there is in getting an extra 10¢ a kilo out of your product on the market.

**The Hon. MELINDA PAVEY:** Can you relate that to some of your success stories, some of the management plans for your property?

**Mr GARDINER:** Yes. In my private capacity, because I was a private consultant for a number of years before I took this job for the Border Rivers-Gwydir CMA, I have been tracking 200 farms across the Northern Tablelands. Of those 200 farms, 120 decided to reduce their stock numbers and 80 decided to increase their stock numbers. The ones that decided to decrease their stock numbers the average decrease was 10 per cent. The average drop in production was zero per cent and the average drop in costs was 20 per cent.

**The Hon. MELINDA PAVEY:** They made 10 per cent?

**Mr GARDINER:** They actually made 20 per cent. I have a couple of really outstanding examples. One sheep producer dropped his sheep numbers from 25,000 to 10,000—that is a 60 per cent fall in numbers. His production fell 40 per cent, his costs fell 70 per cent and he made \$40,000 a year more profit; he made \$40,000 more clear money at the end of the day. But with the ones who decided to increase their numbers, it was a mirror image. The average increase was about 10 per cent. The average increase in production from increasing numbers was zero and the average increase in costs was 20 per cent.

**The Hon. MELINDA PAVEY:** Can you give us an indication of the environmental benefits of that decision to the farmer who made \$40,000 profit?

**Mr GARDINER:** The environmental benefits are that they are keeping their landscape in much better condition, they are maintaining 70 per cent ground cover, they are maintaining two tonnes of litter, they are maintaining higher levels of green pasture mass so that their pastures are more photosynthetically efficient all the time. Their soil quality is improving because they are allowing more of that pasture production to end up in the litter and organic material matrix, which then drives the biological system that keeps soils reasonably healthy.

**Reverend the Hon. FRED NILE:** You mentioned lobbying governments but you referred only to the Commonwealth Government. Did you not lobby the State Government?

**Mr GARDINER:** At that stage we were only lobbying the Federal Government because we were trying to get a Federal Government policy across, that is, that the Federal Government would pay farmers X amount of dollars for providing environmental services as a national policy. That is what we were trying to do. We work with the State Government on the Native Vegetation Act and we

spend quite a lot of time with Glen Klatowsky, Peter Cosier and a few other people involved with that. We thought we had just about had it twigged and then politics got in the road because again we had a nice system that would allow rural land development to be ticked off in a relatively easy tick-box method that was a hell of a lot less cumbersome than the PVP developer, which is the system they ended up running with.

**Reverend the Hon. FRED NILE:** Are you critical of that?

**Mr GARDINER:** I am not going to criticise anything. All I will say is that there are better ways of getting to the same endpoint. As I said earlier with increasing agricultural production, one of the issues associated with land clearing is that those people who do clear land want to produce more, but there is still only the same size bucket of money out there for agriculture, so if they earn more then someone else in agriculture earns less. It is just shifting the deck chairs around the place. You pay your money and take your choice.

**The Hon. MELINDA PAVEY:** Mr Gardiner, in terms of the way forward and the future regarding climate change, what opportunities do you see for farmers in the region and throughout New South Wales for making money out of concern about climate change and such things as carbon sequestration?

**Mr GARDINER:** There is a saying that there's money in mud, but I reckon there is a hell of a lot more money in dust. The guys who do best in agriculture are those who manage dust really well. That is why I have worked on the idea of the best management principles. I think we drive the environment way too hard during drought periods. I think that hand-feeding stock is a no-no, simply because that gives the livestock a much better chance to give the landscape a worse flogging than they could otherwise. I think we really need to tie drought management strategies to high ground cover, high litter levels, and high green pasture masses. I think we need long recovery periods.

I am a bit of a carbon sequestration sceptic—for a number of very good reasons. Those very good reasons are that the more productive your soils are, the less chance they have of sequestering carbon. There are three things that are terribly important in sequestering carbon in soils. They are temperature. Research, particularly out of the United States, is showing that once soil temperatures get above about 27 degrees Centigrade they will not store carbon anyway. That is to do with straight temperature.

The more oxygen your soils have, the less carbon they will sequester, and the more nitrogen your soils have the less carbon they will sequester. So if you are looking at better aerated, fertile soils—which is what you probably want for agriculture—then those are the things that do not sequester carbon very well at all. Then you have to overlay that with the idea that we have open agricultural systems. So, if we are going to look at the issue rationally, we have to accept that under open agricultural systems where agriculture is commercial, and people need to shift stuff from their landscape to make money, the equilibrium capacity of that land to store carbon is probably half what it is under a closed system.

**Reverend the Hon. FRED NILE:** Would you recommend then that when there is a drought the farmer should reduce the number of his cattle or sheep?

**Mr GARDINER:** I do, yes. That is the basis of all the stuff that I do with farmers. If you go up into the area that I work in, you will find that there have been a hell of a lot of stock shifted over the twelve months as a result of what we are doing. You get them to understand that driving a landscape too hard is not making any money for the farmers in the first place because their stock are not putting on any weight, and the chances of the landscape recovering from those conditions are much lower.

If you look at range-land grazing situations across New South Wales you will find that in the Western Division the resilience of the landscape has gone from 1 DSE per hectare in 1900 to 1 DSE per 10 hectares at present. That is a pretty serious loss of resilience in that landscape. If you move into some of the country like the Northern Tablelands, there is also very clear evidence now that the cattle carrying capacity of those landscapes is declining through time, and that decline in carrying capacity

is due to giving the landscape increasingly serious floggings every time we get bad seasonal conditions.

**The Hon. MICHAEL VEITCH:** Mr Gardiner, I am finding your presentation fascinating. Earlier you talked about the level of debt. Is that a barrier to farmers taking on new management practices for their resources? And if it is a barrier, how do you overcome that?

**Mr GARDINER:** I think there are a number of different barriers to farmers taking on new management practices. The first two, and most important, barriers are in the top three inches. Whenever people have a problem that they have to find a solution to, they tend to go to the area that they are most comfortable working in. So, if you talk to the farming community as a general run, the thing they are most comfortable working with is production. So, if they see a profitability problem, with the business not making enough to feed the family, they address it with a production solution, because that is where they are most comfortable working.

If you watched "The Human Mind" on ABC Television last Thursday night, you will have heard a very interesting discussion about a thing called the synapse gap. When you start talking about new things, there is a process in the brain that actually stops that information from flowing through, so the impulse has to jump across a synapse gap before it becomes accepted. So I think the reason people find change difficult is because every time you have change you have to overcome some of those synapse gaps.

The third problem that agriculture faces is that since 1980 land values and the capacity of land to produce income have been decoupled. If you look at the real value of land across Australia through time, you will see it has followed the capacity of that land to increase production. So land values, in real terms, have gone up at the same rate as production increases, which is entirely different from the flatness of incomes and the declining level of profitability in agriculture.

**The Hon. MICHAEL VEITCH:** When you are talking to a farmer and the barrier becomes an issue, what sorts of techniques are used to remove those barriers?

**Mr GARDINER:** I think the good thing is that 98 per cent of farmers are over-producing. The solution for most farmers is to get their farms back to the point where they are maximising their profitability, and once they start maximising profitability then their capacity to handle debt increases. But the capacity to handle debt is not an income issue; it is a profitability issue. So, if you can get farmers back to the point where they are actually optimising production and maximising profitability, then they are in a far better position to meet the debt issues, and to adopt technology. Like anything else, if there is no financial pressure, most stresses that farmers are faced with tend to disappear.

Another interesting psychological thing that comes into play is that under stress people's IQs fall and they revert to habit. So, if you have farmers under financial stress all the time, then they are making decisions with a sub-optimal capacity to make those decisions and they are reverting to habit. For the last 50 years they have been increasing production in response to all the other stimuli that have presented, and that is the point that they go back to.

**The Hon. CHRISTINE ROBERTSON:** Can you tell me the geographic boundaries of the Border River area?

**Mr GARDINER:** The geographic boundaries are about 30 kilometres north of Bendemeer, out to Collarenebri, up to the Queensland border, and the railway line through Armidale and Glen Innes to Tenterfield. That is about the area of the Border Rivers area.

**CHAIRMAN:** Mr Gardiner, thank you very much for your presentation this afternoon and for your submission.

**Mr GARDINER:** Thank you for the opportunity to address the Committee.

**(The public hearing concluded at 12.38 p.m.)**

**(The Committee adjourned until the public forum at 5.00 p.m.)**