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**Slide 2: Future of farming?**

I stand before you a very frustrated farmer. I am most comfortable being out in the paddock. What I like doing most is to be out there digging around the soil, checking for moisture, choosing the plant varieties that will work best in my soil, watching the plants emerge and grow. I have three sons – two of who are working on the land. There is nothing better than the feeling the pride when a truck-load of grain or cotton lives our farm destined to feed and cloth the people of Australia.

But with one third of our best land being test drilled for an open cut coal mine and the balance destined to be peppered with coal seam gas wells, roads and pipelines, our future is far from certain.

Today in my presentation, I will concentrate on the coal seam gas industry and its impacts - because I am hoping the strategic cropping legislation currently in development will save our best dryland farming property.

**Slide 3 – Times are changing?**

What is happening in our state – and across the country - has turned the attention of many farmers to become scientists, researchers, legal eagles and diplomats. We're responding Environmental Impact Statements, attending briefings, convening forums and supporting each other as we read through countless pages of research and legislation.

We can't deny that the rapid advancement of the energy and mining industry in Queensland is exciting - but the lack of checks and balances is very frightening.

I started to become involved in these issues around six or seven years ago when a group called Nandi Water Futures started initial talks with coal seam gas companies regarding potential "new" water for irrigation.

So much has happened since then – change has been enormous and rapid.

A Dalby Land holder forum about three months ago identified major concerns with legislation, trigger thresholds, make good provisions, and landholder concerns about above ground and below ground impacts.

#### **Slide 4: Basin Sustainability Alliance**

As a result we formed the Basin Sustainability Alliance. We realised that there were many different groups trying to be heard by government and community on very similar issues – we have formed an alliance to work together to achieve a better outcome. Our goal is to represent landholder, community and individuals with serious concerns about the environmental, health and social concerns about the unrestrained development of the coal seam gas industry across Queensland

On our committee are highly respected growers, some of who have won awards for their farming practices, held government appointments and high profile industry positions.

This is not a 'NOT IN MY BACK YARD' issue. This is a very real issue that has the potential to damage the food and fibre production for future generations. In particular, our group is concerned about the unrestrained development of the coal seam gas industry across rural Queensland.

#### **Slide 5: Media clips**

I think you will all agree over the last couple of months community awareness of the impacts from CSG mining has risen 10 fold, many thanks to the groups that are represented at the BSA and also the media who have also been very good at reporting the real stories and spreading the word, this is I believe because there are enormous environmental and social concerns about the way the CSG industry is operating at present.

The BSA aims to preserve the GAB, local aquifers and the contribution of agriculture and rural communities to Australian society and economy.

This will be done by information exchange between stake holders, the wider community and by informed engagement with decision makers.

### **Slide 6: Our goal is to have...**

We are not against the development of coal seam gas industry. Our goal is to have a coal seam gas industry that has minimal environmental, economic and social impacts on landholders and communities throughout the great artesian basin but is still able to provide jobs and wealth to the whole state.

### **Slide 7: Great Artesian Basin**

Let me tell you a little about the Great Artesian Basin

The GAB is an aquifer system that underlies more than 20% of Australia and is the primary water source of some 200,000 people and under pins \$3.5B of annual agricultural production.

### **Slide 8: Resource Operations Plan**

Since 2007 the GAB has been managed under the GAB Resource operations Plan. The plan protects flows to springs and base flow to watercourses; it protects existing allocations and provides a process for new allocation to be made in areas of available water.

New allocations identified in the plan for future use are 23,000ML of general reserve and 10,000 ML for projects of State or regional significance.

The plan ensures that any release of any new water from the basin does not put at risk the natural assets of springs. And any future development will be managed within sustainable levels.

### **Slide 9: GAB Sustainability Initiative**

The State Government's commitment to the sustainable management of the Great Artesian Basin has resulted in the saving of 169,500 ML per year of vital outback water resources – through capping and piping of uncontrolled artesian bores. Together the Commonwealth and State Government have invested over \$100 million in the capping and piping

project. In 2009 the Qld Govt announced further commitment of \$7.3m to support bore rehabilitation and bore piping activities under the Great Artesian Basin Sustainability Initiative.

This great news – and fully supported by the communities across the GAB.

BUT there is now an enormous problem facing the Great Artesian Basin.

The Coal Seam Gas industry is exempt from complying with the GAB ROP.

### **Slide 10: Coal seam gas industry**

It seems unthinkable that Government and communities are pouring millions of dollars into the Great Artesian Basin Sustainability Initiative on one hand – while on the other hand it is allowing the coal seam gas industry to extract a forecasted 350,000ML or more per year for 25 to 50 years. And - this is from an already fully allocated ground water system.

This is totally wrong in my opinion and the opinion of thousands of other people because CSG companies are going to take water from the environment and licensed users of this valuable resource and basically waste it. CSG companies Environment Impact Statements say the industry will have from minor to severe impacts on GAB aquifers for hundreds of years.

We should look at the way some of Australia's natural assets have been managed in the past and ensure we don't make the same mistakes.

### **Slide 11: What we've learnt from the past - Murray Darling Basin**

The Murray Darling Basin irrigation industry was developed and over allocated in a time when food and fibre production were the most important industries to the Australian economy. Experience and science has proven this to be unsustainable as significant environmental harm has occurred. The federal government is now investing billions of taxpayer dollars to buy back allocations in order to try and make the system sustainable once again. This is going to cause severe economic harm to the communities along the Murray Darling Basin system.

### **Slide 12: What we've learnt from the past – Tree Clearing**

Farmers were encouraged to clear their farms of trees and produce as much food and fibre as possible. We now know this was an irresponsible approach and large tracts of land are being locked up to ensure a more stable environment for the protection of animal habitats and endangered plant species. This again is causing landholders and their community's severe economic harm.

### **Slide 13: What we've learnt from the past – Condamine Alluvium**

The Condamine Alluvium was also over allocated in a time when primary production was the major contributor to the Queensland economy. The government and irrigators knew the system was over allocated 25 years ago but the Government issued licences up until 8 years ago. If the MDBA had not set the SDL I'm not sure we would be working on a Condamine Alluvium WRP right now.

Allocations in the highly developed areas of the Condamine GW management area were reduced in the late 90's at the insistence of irrigators because they could see that the levels of extraction were not sustainable.

### **Slide 14: We must learn from the mistakes of the past...**

These three examples show us that the lack of scientific knowledge and the government and landholders' desire for the rewards of production have cost the environment and later generations of landholders and taxpayers vast sums of money. The government must learn from past experiences and manage the coal seam gas industry focusing on long term sustainability and not just the royalties and the short term employment it offers.

The challenge is that the issues surrounding the management of the Great Artesian Basin are complex and the impacts are hidden from view – under the ground. The impacts from what we do now – may not be immediately obvious but could last hundreds of years.

### **Slide 15: Great Artesian Basin – Great Barrier Reef**

If some environmental damage threatens the Great Barrier Reef – there would be a public outcry, but our Great Artesian Basin – a vital natural resource – goes under the radar.

So what do we see as the key issues?

### **Slide 16: Groundwater issues**

The first major question we have is - why are CSG water extractions exempt from GAB ROP?

The water is extracted in order to reduce pressure within the coal seams so that the gas is released. The CSG companies state that the water is a by product – so it doesn't count.

We say - that it's exactly the same water that licence landholders and the environment have access to.

### **Slide 17: Groundwater issues – Up to 100,000 wells...**

We are not talking about small amounts of water. To give you an idea of the enormity - we currently are seeing plans from the CSG companies for up to 40,000 wells within the Surat Basin region alone. These wells only have a lifespan of 8-15 years. So in a 30 year project, we could be seeing something like 100,000 wells drilled.

Every time a well is drilled and decommissioned there is a risk of cross aquifer contamination or leakage – from poor drilling operations and supervision.

### **Slide 18: Walloon Coal Measures are GAB Aquifers**

There are differing views on what is and what isn't a GAB aquifer. At least two of the CSG company representatives have said publicly that Coal Walloons are not GAB aquifers, however in a scoping study by the Centre for Water in the Minerals Industry prepared for Executive Director LNG Projects Mal Helmuth, the Walloon Coal Measures are clearly identified as a GAB aquifers.

As you can imagine it is frustrating for landholders to have the Gas Companies being selective about what independent reports they take information from.

We have very serious concerns that there is not enough known about the impacts from the massive groundwater pressure reductions as a result of the dewatering process and its impact on connectivity between the coal seam measures and highly valuable shallow aquifers like the Condamine Alluvium.

### **Slide 19: Long term impacts on GAB**

Very little is known about the long term impacts. Some companies EISs are clearly stating that the water drawn from coal seam measures will be replaced over time FROM aquifers that lie above and below the coal seams. For example in a Santos EIS from last year, it states that the rate of recovery of water levels in the Walloon Coal Measures will be very slow and drawdown in the Hutton Sandstone aquifer will continue for many hundreds of years after operations cease. To put it very simply, there is a concern that water that is already allocated to other licence holders will be used to “top up” what the coal seam gas company takes out.

### **Slide 20: Water movement from aquifer (diagram)**

Impacts on Groundwater Quality are a serious concern to water users. The Walloon Coal Measures are usually a much poor quality than the underlying and overlying aquifers. Any cross-contamination could result in deterioration of water quality – making it unusable for human consumption, town water supplies and agriculture.

### **Slide 21: Challenges of monitoring**

Monitoring is a key issue. There is a lack of baseline data that is publicly available – many bores outside the Condamine Alluvium Groundwater management area have not been monitored. There is a serious lack of confidence by water users that the cumulative impacts are being adequately assessed.

Even for the monitored bore levels, determining baseline data over the long term is difficult – as you can see on this example of a Condamine Alluvium monitoring bore – the levels fluctuate significantly and now, with allocations cut 60% - the variables will change. Even with modelling, it will be difficult to effectively report long term trends.

The current requirement is that if the water levels drop more than two metres in uncompact aquifers – like the Condamine Alluvium – and five metres in compacted aquifers – like the Hutton Sandstones – this triggers an investigation. This is where the “make good” provisions come into play.

### **Slide 22: Make Good Provisions**

Fortunately we haven't had to use “make good” provisions YET. But we are very nervous that the “make good” provisions can actually be implemented.

Firstly – which gas company caused the problem? Some properties have numerous companies on one parcel of land.

Secondly – there may not be any unallocated water available – or no water at all.

The long term management of the make good provisions need more stakeholder input.

### **Slide 23: Environmental Safety**

BSA is also very concerned about environmental safety issues from the the fraccing process itself and the chemicals being used. There are real concerns that the fraccing process could lead to interconnectivity between aquifers. We're pleased to say we had a verbal commitment from Arrow Energy at a public meeting in Dalby last week that they will not be using a fraccing process in the Darling Downs region. We are hoping to get this as a written commitment and would be hoping CGS companies will follow suit.

We believe the only way forward in addressing groundwater issues is for government and industry to work together to fully investigate reinjection. I'll talk a little about this later.

#### **Slide 24: Land surface impacts: salt**

We are also concerned about Land Surface Impacts.

Associated water extracted contains high concentrations of salt – we are told there is up to 200,000 tonnes of salt extracted annually as part of the dewatering process. In the past this salty water has been stored in evaporation dams – causing major concerns about the impact on soil salinity and seepage into shallow aquifers.

We must congratulate the government for setting stringent new guidelines for the treatment of associated water and the storage of salt brine. The associated water is now required to go through the Reverse Osmosis Process.

We are looking forward to seeing this salt beneficially used or removed from the open environment forever and not left in these storage dams.

#### **Slide 25: Land surface impacts: requesting minimum distance**

BSA is calling on the government to set a minimum distance of 500 metres from homes, schools and intensive livestock operations for wells and infrastructure. We also believe this distance should be greater in lifestyle block areas like Tara where there is dense bushland - as this poses a significant fire risk.

Local bush fire brigades need additional training in managing bush fires in gas well intensive areas.

We have serious concerns about all the Infrastructure associated with coal seam gas production on Strategic Cropping Land and especially the flood plains of the Darling Downs.

## **Slide 26: Property values hit by csg**

Wells and pipelines across high quality farmlands will inhibit precision farming operations and there are concerns about subsidence from pipelines and water diversion from roads – this will all impact on farm operations, safety and profitability.

And we fear ultimately – land value.

Elders has been reported in the media as saying that uncertainty caused by CSG developments was certainly “putting buyers off”.

For intensive livestock operations, the massive amount of traffic driving through properties is reported to have impacts on stock weight gains and animal welfare. There are concerns also about QA requirements – with transfer of weeds, and different chemicals and products coming on to their farm - that are outside of the landholders control. Organic farmers obviously will be facing potential loss of their accreditation when CSG activities are occurring on their land.

## **Slide 27: Social and economic impacts – Timing of EIS...**

Apart from the environment concerns – there are social and economic impacts.

You can imagine the stress placed on landholders when they are giving short time frames to respond to 1000 page plus Environmental Impact Statements. Some EIS have been prepared over years and the submission periods have been as little as 8 days. This is improving – the last one was 20 days – but still we find this very challenging as it is the only time we have the opportunity to have direct input into the process. We want our submissions to be well-informed and backed by research – which is difficult to do in short time frames.

Landholders are attending a large number of meetings both for education purposes and to raise concerns with Government and Coal Seam Gas companies. This is vital but adding additional workloads to very busy people and adding stress and pressure to family life.

There are certainly issues around the loss of privacy and security. Imagine if we were in this private meeting room today and 50 workers wandered through. Having strangers daily enter what used to be your private property can be hard to accept.

There are also reports on health problems in communities of intensive coal seam gas activity – I don't really want to go into this issue but I do think that there are many unknowns that need to be independently investigated. I do believe the lack of support for these communities has the potential to increase the fear factor which only adds to stress-related problems.

Landholders are telling us that they are very unhappy with the secrecy clauses in access and compensation agreements. It should be up to the landholder to demand secrecy – not a condition set by the coal seam gas companies.

Landholders need to be fully informed and have legal advice when negotiation access and compensation agreements. This can be very expensive as some of the impacts can amount to million-dollar impact. Even access agreements that can appear to be simple will see Mum and Dad farmers – having to spend around \$5,000-\$10,000 for legal advice.

In many ways, innocent people are carrying numerous impacts of this industry – it is having very real and damaging affects on people's lifestyle, finances and mental well being.

### **Slide 28: Social and Economic Impacts – (farm aerial map)**

Landholders have loss of confidence in further investment and expansion decisions. I have sons working with me on the land – we have been expanding our business over the past 30 years – but have recently turned down the opportunity to purchase neighbouring properties because of the uncertainty about long term impacts of coal seam gas activity on groundwater supplies, farm productivity and long term land value. I'll be honest with you – sometimes I don't know what to tell my sons about the future of farming in this area.

## **Slide 29: The way forward: Positive meetings...**

So what's the way forward?

We need to keep talking. In recent weeks the BSA has had some encouraging meetings with key government officials from DEEDI, Mines and Energy and the Premier's office. We know our concerns are being heard – now we need to work towards solutions.

We need to develop a better working relationship with CSG companies. Move away from a THEM and US approach and instead negotiate WIN-WIN solutions.

We would look to government to facilitate a more open sharing of research and information across the industry and between industries. We must say that we have seen an improvement in the communication with coal seam gas companies in recent weeks and hope this will result in meaningful outcomes.

At the end of the day the onus is on Government to put in place policy that will maintain the groundwater balance. It's too late once the water is gone.

## **Slide 30: The way forward: Reinjection...**

We believe a key priority for government and industry should be to work together to fully investigate reinjection. It's our view this should be a collaborative approach with something like a reinjection task force. Our goal would be to have at least 75% of associated water safely reinjected or substituted for existing groundwater.

The industry will have difficulty progressing if it does not address the primary concern of landholders which is the long term groundwater impacts on the GAB and sub-artesian aquifers.

### **Slide 31: The Way Forward: Resourcing the Qld Water...**

The Qld Water Commission is armed with the responsibility to manage the groundwater “make good” provisions if the trigger thresholds are reached. Both water quality and quantity should be addressed in this process. The QWC needs to be adequately funded and staffed to be able to carry out this very important role.

Landholders would like to see more compliance officers in the field monitoring the activities of companies and their contractors.

I am pleased to advise that a stakeholders information forum in Dalby recently, Arrow indicated they would consider keeping off strategic cropping land for at least 10 years. This is still a young industry and in time I’m sure we’ll see new technologies such as improvements to directional drilling technology, and maybe even a closed system where the gas and water is extracted and the water immediately reinjected.

This kind of new technology may well enable the CSG industry to access gas from deposits below high value agricultural land with little or no impact to farming operations.

But until we get there - we need more independent research into the Great Artesian Basin and aquifer impacts. We can’t treat this as an ongoing experiment – the stakes are too high.

I’d like to thank the Qld Farmers Federation for inviting me to address this forum and highlight some of the issues we are facing.

Communities that we represent demand that the government puts in place legislation that enforces long term sustainability of this vital natural resource – the Great Artesian Basin.

### **Slide 32: We must work in harmony**

If I can I'd like to leave you with one thought. It's a comment made by one of Australia's leading groundwater engineers at a seminar we held in Daaby last week that really hit home for me.

"We are stewards of this water for future generations – for our children and grandchildren."

We have to work together to make this right.