This submission outlines my private view of some of the underlying causes of drought and indebtedness in agriculture, which prevent producers from becoming either prepared or self-reliant.

As corporate collapses become a daily event and climate change is being taken seriously by governments there is growing evidence that governments and corporations have been making catastrophic errors in scientific and economic management for many years. The reasoning that has produced modern agriculture is just as flawed as the reasoning that has produced sub-prime mortgages, climate change and an oil dependent society. If the social, economic and environmental conditions in which we operate have changed dramatically in the past three years, they have changed even more dramatically in the past ten years and will continue to do so with frightening rapidity. The behaviour of farmers does not take place in isolation; it reflects the dominant ethos of society – comments in this document that appear critical of farmers, are critical of our whole society.

The Gravesend/Warialda area has escaped the worst of the drought; in this area it is unlikely that a prudent manager will be in trouble. Those who oppose the widespread use of drought assistance to farmers mostly stayed away from the Moree forum; in country towns it is impossible to be openly critical of benefits that may be received by relatives, business associates, neighbours and friends. Words that were not uttered by anybody during the Moree forum were sustainable and environment or any of the other words associated with that raft of ideas.

1. **The word drought; what constitutes a drought and why some properties and proprietors move into drought earlier and leave it later than others.**

Participants in the Moree meeting apparently perceived drought to be a simple rainfall deficiency, which may be general or highly localised. The many other factors involved in drought, including temperature (both extremes and averages), the way in which rain falls (intensity and duration) and – above all - the ability of landholders to utilise that rain were not mentioned. Some experienced graziers and farmers believe that anything less than 15mm does not constitute a useful fall, whereas Holistic Management educators state that 3mm can be a useful fall on well-managed soils. A degraded pasture may be unable to absorb a tiny fall, but a dynamic pasture may absorb a lot of rain very fast. As a rule of thumb the owner of the property which cannot effectively utilise rain is more likely to be seeking government assistance. In farming, especially as cultivation has spread to marginal areas, there is an inherently increased probability of crop failure, and of consequent environmental damage. To fully assess the economic impact of drought, and to enable producers to make adequate preparations, the definition of drought is crucial. The end of one drought sows the seeds of the next one.

2. **How much of the 40% increase in Australian farm debt since 2002 is actually due to drought, and how much to other factors.**

The present level of farm debt has many causes;

(i) speculative borrowing to expand land-holdings (as soil health declines expansion becomes a way of maintaining production)
(ii) 'gambling' on rain to plant crops
(iii) plain bad decision making e.g. forward selling of wheat in 2007

(iv) a cultural shift throughout western society to acceptance of high levels of debt ("The ratio of personal debt to income in Australia is one of the highest in the world" CBA 2007)
(v) the legacy of 'negative gearing' during the 1990's in which interest was seen as preferable to tax
(vi) unavoidable loss of production following drought.

To what extent do interest subsidies simply underwrite many forms of bad financial management? The growing use of gambling as a management technique seems to be accepted by farmers, the media, banks and government. (See The Economist October 2007; Australian Financial Review 3/2008; ABC documentary The Birchip Cropping Group (2007); Gambling the Farm ABC 7.30 report 2005 "Along the fault line of Australian agriculture the wheels turn and the dice roll once more..."). Each year farmers devote a larger part of their income to keeping the banks at bay, and decision making is ever more geared to short term financial needs, and less to long term environmental needs. Lending institutions drive agriculture, not necessarily forward, but into certain modes of production and ways of thinking. Unfortunately these institutions do not necessarily have the skills to understand the agriculture that they now effectively control.

Farmers live in the same consumption driven world as everybody else; there is an increasing confusion between goods purchased for their own sake and goods that assist in production, and self-esteem appears to be boosted by the ownership of equipment of all sorts, ranging from tractors to mobile telephones.

3. A fair income for farmers?

There is a widespread assumption that farmers are entitled to middle class incomes and aspirations, with little questioning of social and financial entitlements, including the income to which they should aspire (as much as possible). Like the rest of the population, they are unwilling to tighten their belts in tough times, preferring instead to extend their credit. They also tend to forget that the phenomenon of agriculture as a sole source of income is recent - until the 19th century farmers were also weavers, spinners, retailers and publicans – often value adding to their own produce.

4. The Australian experience mirrors global trends in agricultural production that are occurring in otherwise disparate climates when similar methods of production are used.

Across the western world we are seeing;

(i) rising costs of production, farm debt, quantity of inputs for each tonne produced, and increased physical and mental health problems amongst farmers
(ii) declining profit, production, soil carbon and soil health
(iii) increasing vulnerability to climatic extremes – especially drought, flood and heat
(iv) prices and production of inputs controlled by a small number of large corporations and the price received by producers controlled by a shrinking number of supermarket conglomerates (some of which have degrees of common ownership with the suppliers)
(v) Increasing direct and indirect subsidisation of agriculture by governments.

Buyers of agricultural produce can squeeze prices even more when governments prop up producers; at the same time declining soil health is masked by rising quantity of inputs, particularly fertilisers.

Are we actually seeing a systemic failure in farm management? The high input, technology intensive methods which largely mine the soil, but otherwise ignore natural resources may already have been poised to fail before the drought. There appear to be remarkable similarities between recommended practices in the UK and North America, such as chemical fallows and planting 'improved' pasture in place of sound native pastures, and those recommended here – despite huge climatic differences. One is tempted to believe that similar activities are leading to similar results. The attached Guardian Weekly article 'Field of Broken Dreams' (8.8.08) about cotton production in India appeared after this submission was started. The report 'Critical Breaking Point' was quoted in the BCG Four Corners report "The primary impact [of the drought] is the worsening of pre-existing problems.."

High rates of suicide and illness among farmers in this country are not considered to be related to chemical use, although they are in other countries.

5. Agriculture and climate change.

Few farmers 'believe' in climate change, instead they choose to believe in a natural climate cycle and that soon we will get back to normal seasons; their information comes from the popular and rural press and not from specialist publications; the Australian press has presented the climate debate in a very different to the European press, and this shows in people's thinking.

It is worth noting that although meat producers are castigated for their contribution to emissions through methane, dairy cows appear to have a different emissions policy and people are not encouraged to give up milk. In reality, the way in which an animal is managed has a huge impact on its contribution to emissions and a properly managed beef animal is actually contributing to carbon sequestration in pastures.

6. Government policy & informal censorship.

At a recent alternative energy forum participants were told by Nigel Morris (BP Australia) that Germany is the world's leader in solar energy, despite having 40% less solar radiation than Australia. He put this down to the German government's policy of encouraging solar energy research and use.

Government policy gives direction to agricultural practice in this country; yet debates about agriculture and ecological management seem to take place in different rooms and possibly on different planets. Government policies appear uncritical of farming practices that are driven by short term corporate interests rather than by long term environmental concerns. One could go far as to say that some debates have actually been censored, particularly those about climate change, the long term effects of GM product use and animal welfare. Confusion is added by the distinction between Federal and State policies.

As ultimate overlord the state decides who may own the land, and what is done with it, but their decisions are nearly always wrong. The best example of 'good' government intervention I have found is the regulations for clearing belah scrub north east of Moree in the early 1900's – it created a landscape that remained sustainable until the late 1990's. The regulations were designed to create grazing for sheep and succeeded beautifully, incidentally improving local bio-diversity.

An example of censorship by non-reporting is that few Australian farmers know that Roundup was banned in Denmark in 2003 because of contamination of groundwater supplies; the difference in this country would appear to be that the ground water is not used as drinking water so the pollution 'doesn't matter'. Subjects like groundwater pollution, fertiliser run-off and land use should be the subject of vigorous debate unfettered by vested interests to ensure that government policies do not simply protect unsustainable practices.

The two processes of establishing policy and informal censorship by non-reporting combine to ensure that Australian farmers are well informed about technological innovation overseas, especially in the USA, but ill informed about the dangers of these innovations. A recent visit to Australia by a group of Canadian farmers opposed to GM plants attracted very limited publicity, as did a carefully timed announcement of state approval for the use of certain GM seeds.

7. **The importance of environmental and ecological health, ecological damage sustained in droughts, how long that takes to repair**

The economic theories that underpin modern agriculture contain assumptions about the passive nature of our natural resource base; take soil, add fertiliser, seed, chemical and adequate rain, and crops may be grown forever. This view takes no account of environmental factors, soil carbon, soil micro-biology or the effects of 'mining' the soil of nutrients.

Conventional droughts involves bare ground – one only has to watch a news bulletin of either an overgrazed pasture with a dead cow at the bottom of a dry dam (the dam usually full of silt that has eroded off the paddocks), or dust billowing off cropping land that the farmer is working with diesel that has been paid for with borrowed money. The health of the soil is compromised, its ability to absorb and benefit from rainfall is reduced, and when 'drought breaking' rains do fall the ground is unable to absorb the rainfall so flooding, erosion and significant loss of soil take place. Soil exposed during droughts is hotter in summer and colder in winter, leading to further damage to its structure and making it difficult for plants to regenerate.

Reducing bare ground will always reduce environmental damage during droughts, and the most crucial part of the recovery is when plant populations are attempting to re-establish themselves. Traditionally producers have tried to re-stock as soon as possible after drought breaks – often several months before the condition of the land makes it appropriate to do so.

8. **Incomplete recovery after drought effectively hastens and increases the impact of the next one**

When restocking takes place too soon, land becomes more vulnerable to the next drought, because the soil never properly rehydrates, plants are eaten by livestock before they are completely viable and a further minor rainfall deficit leads to serious loss of groundcover. On grazing land perennials die and are replaced by annual plants, and ground dominated by annuals – whether deliberately planted or not, will always have a great potential for exposed earth, than one dominated by perennials, which may become dormant during drought but do not disappear. Deliberately planted annual mono-cultures of all sorts increase a producer's vulnerability to weather extremes.

All these trends are inter-related: flood is the brother of drought; where soil is unable to properly absorb rainfall, flood is the result. The lost water that flows away in a flood forms the basis of the

next drought. Whilst meteorologists agree the number of intense rainfall events is increasing across the world, the amount of water being lost to the landscape through floods is increasing even faster.

9. The role of expert advisers, government appointees, academics, commercial agronomists, bankers and other vested interests in marketing, protecting and shoring up of the present recommended methods of production.

All vested interests benefit from high levels of inputs into agriculture. Agronomists of all sorts – commercial, government and university - continue to advise extremely risky activities, such as planting improved pasture, and understate the cost of doing so. On my own property two senior DPI agronomists advised planting a paddock with improved pasture. Their estimate of the cost did not include opportunity cost, borrowing costs, loss of production from the paddock whilst the grasses were being established, or the risk of failure. Once these risks and hidden costs were assessed, it became clear that grazing management, with no financial outlay was the safer, if slower option.

Agricultural advice tend to be prescriptive; instead of suggesting three or four courses of action and looking at the potential results of each, one 'correct' action is suggested and, even worse, only one correct action for all producers. Of the experts available to farmers or graziers, most are compromised; government and university agronomists follow the prevailing orthodoxy, commercial agronomists are selling goods (see news release for GRDC field at Bellata), using DPI presenters to legitimise commercial marketing (see NSRLPB newsletter for incidental promotion of commercial vaccines); accountants are frighteningly likely to confuse accounting advice with agronomy (see Boyce CA newsletter attached), and banks are sellers of money. Boyce CA run a grazing benchmarking program; unfortunately there are no environmental or sustainability markers included; discussions with partners in the firm indicate that there would be producer resistance to such a move. Agricultural benchmarking that ignores natural resources is nonsensical.

The CSIRO has developed the Yield Prophet [sic] Model, apparently intended to predict yields, although we know we cannot predict the future, and the word prophet means "inspired teacher, revealer or interpreter of God's will" (OED). Projects of this sort encourage unrealistic reliance on technology.

Experts are themselves bombarded with 'scientific' information – most of which is really agricultural merchandise marketing information. The only impartial source of financial advice is from Rural Financial Counsellors. Unfortunately their service is treated more as a crutch to enable people to obtain financial assistance, than a method of avoiding the need to seek it in the first place. There is almost no source of agronomic advice that is uncompromised by corporate links, and the NSW DPI continues to offer conservative advice, rooted in a rigidly mechanical view of the world, supported by high technological inputs.

Credit should go to the Border Rivers-Gwydir and other CMAs for making subsidised training in alternative styles of management available, and for offering financial assistance to implement management plans. On my own property receipt of small grants and subsidised training has enabled me to become much more prepared for drought.

Agricultural publications are essentially advertising material dressed up as news, yet producers tend to see them as sources of valuable information. In reality these publications depend on advertising revenue, and feed on the "you have to spend money to make money" mentality. Rural Press has undoubtedly played a significant role in moulding farmers' beliefs about climate change. Farmers pride themselves on being "climate change sceptics" and draw on their own rainfall records to show that climate change is not happening – because it has not been reported in the rural press as a complex subject and they seem happily unaware of vanishing icecaps.

10. The circumstances under which 'conventional' agriculture appears to succeed.

The agricultural system in Australia – both farming and livestock production - seems to function adequately when most of the following variables are neutral or favourable;

(i) fossil fuels, chemicals and fertilisers are cheap and readily available
(ii) interest rates are low
(iii) the Australian dollar is low
(iv) land values rise faster than debt
(v) technology continues to provide solutions to increasing levels of plant and livestock diseases, and declining soil fertility (largely caused by monocultures)
(vi) rainfall remains within certain parameters
(vii) farmers receive high rates of direct and indirect subsidy (including scientific research, subsidised boarding school education and drought assistance).

Most managers blame the variables, rather than the system, when things go wrong. They say "There is not enough rain and interest rates are too high, so we need to change the variables by receiving drought assistance", instead of saying "I have a management system that cannot operate when these variables are unfavourable, so I should consider changing my management system to one that is more resilient."

Bruce Ward – a pioneer of holistic management teaching in Australia wrote recently "anybody can take away your marketing advantage, but only you can decide to give away your low cost of production". Almost everything that happens on a farm is the result of a choice; the only things that cannot be controlled are rainfall (although rainfall use efficiency is entirely in the farmers' hands) and government regulations.

11. **Producers' mentality.**

Many agricultural producers believe that food production is the backbone of the nation, and farmers should be bailed out, because they are farmers. As a group farmers are characterised by a remarkable lack of self-criticism – when things go wrong it is usually someone else's fault (banks, government, regulations, salesmen, lack of rainfall) not their own inability to manage the eco-system. They often see themselves as victims helpless in the face of adversity, which makes it easier than ever for them to suggest that variables should be changed to suit them (ranging from cloud seeding to subsidies) rather than that they should change to suit the altered variables. There are genuine victims – those who have had so many years of drought that even prudent management has failed, and small scale irrigators whose water allocations have been lost to expanding towns.

Unfortunately those individuals are lumped in with the greedy and foolish for the purposes of drought assistance.

Many farmers have a rather skewed view of economic theory; they understand cash flow, but not marginal return, they understand economies of scale, but not dis-economies; they are desperate to reduce tax in good times, but don't really understand how that will impact on them in bad times. This year many farmers have planted extensive wheat crops, but the sheer size of the area planted is already depressing prices. There will also be an increase in plant disease (see attached article on strip rust) and an increased risk of hail on vast areas of ripening wheat. Chemical suppliers and insurance companies stand to benefit from these events. Farmers tend to try to maximise production at all costs, which in turns exposes them to extra risks.

Monocultures and expansion have been encouraged at every level and in the greedy atmosphere of the 1990's farmers 'bought the dream' of massive incomes based on monocultures without questioning the science, marketing or economics that lay behind it. They have been told to 'get big or get out', and as the "living area of farms is getting bigger and bigger" (statement by forum convenor) they buy more land instead of wondering why they need more land. Farmers of all sorts are exceptionally good at adapting to and solving practical problems; they are exceptionally bad at working out why the problems arose in the first place. Their linear thinking makes them assume that chemical use – to use but one example – is effective, whilst a non-linear viewpoint suggests that chemicals are designed specifically to be partially effective, and to require continual re-application.

Many farmers live in a conflict based model of the world, in which they are fighting nature, 'greenies' and all levels of government about everything except drought assistance – which they see as a right. Paradoxically, the banks and corporations that relieve them of so much money are seen as friends. In another paradox, when an agricultural chemical is banned by government because its dangers have become too apparent to ignore, producer organisations often condemn the ban. This conflict model moves deep into their lives, as they spend lot of time killing things; foxes, pigs, marsupials, weeds, funguses – the list is endless. Not far from my home a paddock is festooned with marsupial carcasses; within three kilometres there is a fox baiting program is in full swing; the contradiction of at once killing and feeding foxes has escaped those concerned. There is no doubt at that people who spend more time in killing than nurturing do become brutalised in the process.

Hand in hand with a conflict mentality goes parochialism; they look no further than their own rainfall and the price they pay for diesel, and would think that the experience of an Indian or English farmer is totally irrelevant to their own experience.

Fatalism and flawed reasoning

Fatalism underlies the flawed reasoning that is often seen in agriculture. There is a strong belief that things are, because they are; an attitude that permeates thinking about drought, flood, pests and crops in general. Symptom based thinking is endemic in our society; we want to 'cure' various diet related illnesses without changing our diets, and we want to be 'tough on crime' without looking at whether toughness really does reduce crime. Hand in hand with fatalism goes the incurable optimism which leads farmers to assume that a return to 'normal seasons' is imminent, and many people plan their stocking and farming on that expectation of reasonable seasons.

Farmers love technology, but have an increasingly vexed relationship with science, underpinned by a belief that man can successfully dominate and manipulate nature. Several articles have appeared in 'The Land' in which suggesting that simply diverting the 'wasted' water from tropical rivers to the south will solve Australia's water problems. Now that many scientists are suggesting that man has created problems, particularly with climate, farmers simply seek other science that will support their viewpoint.

The examples used below are all real. The linear thinking solution might be correct, but the reasoning process has been skipped.

Linear Thinking (usually involving significant outlay of money and time)	*Non-linear thinking*
Mimosa is an invasive plant which occurs on my property, therefore I must control it. If I don't it will take over. This can be done by chemical or mechanical means. The NW Weeds website will tell me what chemicals to use.	What is the underlying cause? Is it caused by my management? Will chemicals contaminate waterways? What soils does it prefer? What is its life cycle? If I manage my grazing differently, will it continue to increase? If so, why?
Foxes/pigs are a problem at the moment so I will put out poison baits/shoot/trap. I will talk to the PP board about aerial shooting, and look at PP Board & Landcare brochures about fox control.	Why are so many around? Are they the result of seasonal conditions? Will control adversely affect neighbours or wildlife? Has mass slaughter of these animals proved to be effective in the past? (No, they come back every year.) Does eradication of local populations create a gap that is colonised by young strong animals that come in from adjacent areas? (Probably) Do carcasses attract additional predators?
When I pregnancy-tested my heifers, only 80% were in calf, so I had to get rid of a lot of them – following DPI recommended practices and general received wisdom.	Did I provide optimum conditions for them to get in calf? Is a short joining always the best way to manage a breeding herd? Are there other factors influencing the number that get in calf? Am I incidentally selecting against other excellent maternal or physical qualities? Who benefits from present recommended practice?
I need to plant oats to get me through winter and to fatten my steers.	What is the real cost, including labour? If I need to supplement, is hay a better option? If I manage my pastures properly, ensuring plenty of perennials, and husband late summer growth for winter, will that carry me through? If not, is selling the better option? Is fattening steers a safer option than selling them as weaners?
Soil compaction is caused by livestock, so I must always keep livestock off my good cropping country and invest in expensive equipment that allows 'controlled traffic' farming.	Compaction seems to occur in soils with low levels of organic matter and carbon. How can these be increased and is the leasing/purchase of new equipment a sound investment?
My heifers are too poor to get back in calf because it has been a tough winter.	Why has it been tough? Have I matched stocking rate to available feed? Why are the cattle unable to utilise the available dry feed? Can I change my grazing management to plan around the rain that has fallen, not what I hope may fall in the future?

12. The use of rainfall predictions by merchandising corporations as a marketing technique.

In the past five years farmers have started to use computerised weather forecasts as a form guide; for some individuals watching these predictions is almost an addiction, and farmers make commercial decisions based on an expression of probability by someone they have never met and whose methodology they don't understand. The worse the situation becomes, the more stories circulate of rain expected on a specific date, and in 2002, even at a specific time of day. It is particularly unfortunate that predictions are expressed in terms of an event taking place; if the BOM prediction of "a 50% chance of above average rainfall" was changed to "a 50% chance of below average rainfall" it may have a sobering effect. See also the Yield Prophet Model developed by the CSIRO.

Corporations use rainfall as a marketing tool; a story that appeared in The Land as 'Drought breaks' could be traced back to a BOM prediction of a 60% chance of above average rain in the next quarter. Farmers often find a favourite site that delivers optimistic predictions, which they abandon when someone recommends a 'better' one. During the first part of 2008 monitoring of the Elders 28 day predictions showed that the forecasts changed dramatically within each 28 day period, and were totally useless in relation to a specific property, but nearly always somewhere in the region the predicted amount of rain fell on the day in question. I continue to wonder what role is played by the companies that present these predictions in encouraging farmers to spend money.

If weather forecasts ever were to become accurate, then the face of agriculture would change; if we all knew when to sell cattle, the price would fall; if all broad acre farmers knew when to farm and when not to farm, the price of their commodities would plummet.

13. Producers who show the greatest resilience in drought ; the practical and intellectual power of those producers and a few independent scientists who are driving change from below.

The convenor of the Moree forum mentioned "those who even in dry periods by the lap of the gods and good management make a living", he also mentioned "a diversity of production experience". Some of these diversities are a function of localised rainfall fluctuations, but many are the result of management. During any drought, one can see adjacent properties that have been subjected to very different land management regimes, one with many starving cattle picking at round bales brought in by subsidised freight, next door to a few fat unsubsidised cattle.

Most of the constructive changes in agriculture are coming from below; pasture cropping, the proper management of native pastures, re-introduction of crop rotations and strip cropping, and bio-dynamics are coming from a small, but apparently successful group of producers. A recent bio-dynamic course in the heart of a broad-acre farming belt attracted 30 participants without being advertised. Similarly, around Moree, composting of all sorts and the use of compost teas is being driven by small companies and producer demand – not by advice from agronomists, DPI, GRDC or academic institutions. A recent biological product field day attracted 170 participants; a strong expression of the need to look beyond urea.

14. A re-modelling of animal welfare legislation for social, ethical and economic reasons.

When a hungry cow ceases to reproduce, and whilst being handfed, she is actively costing money and once dead she is an absolute loss to the producer - research undertaken at Pilliga showed that many cows had received feed from owners, far in excess of their monetary value. All the time the cow is contributing to the depletion of groundcover and soil health.

Cattle retained long after it is prudent to do so for several reasons

a) a widespread belief that "when the drought breaks" it will be impossible to restock
b) a desire not to be idle (hand feeding stock provides activity)
c) an inexplicable dislike of partial or progressive destocking
d) gambling on rain.

Producer organisations fight tooth and nail against any animal welfare regulation, although it makes moral and economic sense. The retention, maltreatment and death of animals is treated by producers, government departments and producer organisations as a form of 'collateral damage', when in reality it is entirely the result of management decisions.

15. A farm for the 21st century?

The words that should characterise 21st century agriculture are prudence, resilience and caution. The prudent manager will plan around rainfall already received rather than expectation of rainfall, and will have a range of enterprises on his or her farm; even a grazier may grow many species of grass, and many types of animal may be grazed. The resilient manager will not think in terms of expansion and overdrafts but rather about a level and type of production that can be maintained with the minimum of inputs over many years. The cautious manager will spend a lot of time researching possible actions, instead of relying on advice. He or she will have a much wider knowledge, gained from a greater variety of sources than today's farmer. The word 'gamble' will be deleted from the vocabulary of agriculture.

The manager will be principally the manager of an eco-system from which food is harvested, rather than the manager of a farm, on which the eco-system is an enemy. The manager's planning will be aimed at lowering risk and looking to the long term; a farm is a business *unlike* any other –because a farmer is the interface between human society and the land, and topsoil is the only thing between us and extinction.

The successful producer is likely to be part of formal and informal co-operatives; sharing information, purchasing and selling goods. The producers of specialised goods, like olives, already manage their own marketing, largely below the radar of supermarket chains. Direct marketing will allow producers whose unique competitive advantage lies in the quality of their produce to reap the benefit. The farmer will spend less time away from the property, and will have less income but will enjoy being on the property and will have a more stable life. As fuel becomes more expensive, the farmer will become physically fitter.

On a national scale, the terms of agricultural debate will change, and that change will include changes in the behaviour of banks and corporations. In the short term the behaviour of lending institutions in Australia must lead change in agricultural practice because they are now the principal stakeholders in agricultural land. It will become a matter of government policy to include to include the study of ecology, philosophy and ethics in agriculture courses of all types. As the world

food crisis deepens, all levels of government will want to intervene in agriculture. The time may come when the establishment of vast monocultures is banned, and planning permission may be required before crops are planted. Any financial assistance for farmers from government will be conditional upon maintaining groundcover (as is already the case with assistance from the CMA).

If the terms of national debate do not alter, farmers will be squeezed ever more firmly between banks and supermarket chains; their decisions will become ever more short term, and their ability to produce will be reduced as soil and ecological health declines. In the end, if agriculture fails, then societies disappear.

Attachments:

Paper
NSRLPB newsletter June 2008(promotion of vaccines & pest animal baiting)
Warialda Standard 30.7.08 (GRDC Field Day)
Boyce CA Newsletter May/June 2008
Moree Champion Aug. 2008 (Stripe rust alert)
Financial Review (undated) 'Debt ridden farmers dig even deeper'
AFJ June 2003 'Are you a gambler?' Rosemary Bartle

Electronic links
NW Weeds website http://www.northwestweeds.nsw.gov.au/
The Economist 4.10.2007
http://www.economist.com/world/asia/displaystory.cfm?story_id=9912653
Birchip Cropping Group 'Critical Breaking Point Report'
http://www.abc.net.au/news/stories/2008/06/18/2277989.htm?site=melbourne
Case Study: Tim & Karen Wright
http://live.greeningaustralia.org.au/nativevegetation/pages/pdf/Authors%20W/14a_Wright_et_al.pdf
CSIRO Yield Prophet Model
http://www.regional.org.au/au/asa/2006/concurrent/adoption/4645_huntj.htm
Guardian Weekly 8.8.08 'Field of Broken Dreams'
http://www.guardian.co.uk/environment/2008/jul/30/gmcrops.india
Guardian Weekly 'Selfish Capitalism is bad for your health'
http://nation.ittefaq.com/issues/2008/01/27/news0144.htm