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In the February 2011 edition of the Qantas in-flight magazine the environment was a central theme in eleven of twenty-three articles. The articles were spread across food, wine, tourism, waste disposal, eco products and biodiversity. Seemingly, interest in the environment is everywhere but will it be there when we need it most?

FOOD AND FAMINE - IMPLICATIONS FOR AUSTRALIA

There seems to be near universal agreement that we are entering a period of global food shortage. It is thought this shortage will arise because increased demand will outstrip supply capacity. The increased demand will come from population growth in less developed countries and from the higher food chain demands of more affluent consumers. Supply capacity will be constrained by shortages of land, phosphorus, energy and water and by environmental regulation and a lack of public investment in research. A consequential moral imperative is articulated centred on there being increased famine.

The challenge

Our calendars are full of conferences about a global food crisis and our need to double our output of food to avert the coming famine. Little attention is given to the fact that the rate of predicted population growth over the next 40 years is about half what it has been for the past 40 years, to the accelerating development of less resource consuming biological production paradigms or to the fact that higher food chain demands will be mediated through efficient market based relationships.

Julian Cribb expresses the coming famine and the need to double our output of food as being 'the greatest test of our global humanity and our wisdom we have yet faced'. Yes, that would be a challenge, but perhaps not the greatest challenge, because famine is more a consequence of poverty rather than the cause of it and increased food production in Australia is no solution for global poverty.

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The cost of production

Arguably, the production focus and ethic are most vigorously pursued by agricultural scientists possibly because the near trebling of production over the past fifty years or so has been mainly attributed to scientific and technological innovation. Surely this has been no mean feat and we need to celebrate past and continuing innovation. However, we need also to ask whether the best future is just more of the past. We rarely, if ever, hear about there being a dramatic fall in the ratio of energy output to energy input, or there being virtually no increase in the real gross value of agricultural production, or about the continuing substantial fall in aggregate real farm profitability or about there still being a hard core of about one billion people globally who suffer from under nutrition. Essentially we are dealing with unsustainable and some would argue unethical production paradigms.

And it seems none of this is about to change.

This is not an idle consideration. Popularising a perceived need to dramatically increase food production in Australia will undoubtedly inflame agricultural fundamentalism leading to a stronger dismissal of the environmental and social consequences of increased production. Already we have commentary about environmental policies and regulations limiting production in Australia, and about the need for increased public funding for agricultural research and development.

...increased prices will quickly give us increased production and less attention to non-priced environmental and social consequences

History and a basic understanding of demand and supply tell us that increased prices will quickly give us increased production and less attention to non-priced environmental and social consequences. So, even if increased production is to be considered to be our ethical response, public and industry policy should focus not so much on the production response itself but on the undesirable consequences of increased production.

Production here and famine there

When we are looking at production it is just as important to ask whether increased Australian production is the solution to global famine.

The Crawford Foundation [report](#) in 2008 on how Australia can help move towards a food secure world places unqualified emphasis, not on Australia producing more food, but on increased aid to agricultural and rural development where it is most needed.

Exploring the relationships between food prices, poverty and famine is far beyond this article but I cannot resist the urge just to put a toe into these waters, if only to indicate the need for caution.

Simulation studies (see [IFPRI](#) reference below) show that a simultaneous 40% increase in the prices of wheat, rice, cotton, fruits and vegetables, and sugar in Egypt would result in a rise in national poverty by only 2%, from 38 to 40%. However, it is a complex picture with differential impacts. A 40% increase in sugar prices alone would reduce poverty among sugarcane growers by 20%, largely because they are poor and highly dependent on sugarcane income.

So again, one might ask if rising food prices might be a large part of the solution to poverty and hence famine (at least for farmers) rather than the bogey requiring Australia to dig even more deeply into its obsession with agricultural production?

Beliefs and values

In 2000 Snow Barlow and I convened a symposium titled *Australian Values-Rural Policies*. The main conclusion was that our rural and, more specifically, our agricultural policies are value based but with a very narrow production focus. This singular focus on production is in concert with a dominant view in the agricultural community, including in its public sector support organisations, that agriculture is ethical simply because it deals with producing food and fibre.

Communities generally, and agricultural communities more so, are rarely able to effectively challenge their shared values from within. Hence, in agriculture we need involvement from and debate with communities more broadly. This will be less divisive if we avoid adopting defensive and victim postures for there is much evidence of a strong urban empathy with the difficulties we face.

We need institutional arrangements for agriculture that are responsive to changed and changing beliefs and values. Institutional arrangements include norms and practices, policies and programs and laws, regulations and codes of practice and the operation of markets.

So what should we do?

A good place to start would be to broaden the operations of two of the most potent influences - markets and science. In the rest of this article I look at value-based markets and I'll deal with science some other time, maybe.

The power of pricing

The power of the market to do good and evil is widely acknowledged. However, no matter how much we value 'Green' it is about the only thing we can't buy. So it should come as no surprise that communities, including land managers, under invest in improving land management.

We know the limitations of regulating for better land management. We know the limitations, the frustrations and the high costs of grant based systems. We know that research, development, education and training can take us only so far. And we know that picking winners is no substitute for establishing conditions favourable for innovation and creativity.

'Green' is about the only thing we can't buy.

Pricing values

Ten years ago the *Australian Values-Rural Policies Symposium* highlighted that we need to establish markets that enable varying beliefs and values to be expressed. Since then we have done much work in the [Australian Land Management Group](#) (ALM Group) to design the market and show that it can work in the public and private markets for 'green'. Our primary job is done. The concept, the design and the system now needs a broader national investment.

We need to apply the market blow torch to promote and reward improving land management.

We need food and fibre markets that incorporate environmental values not evident in those products or

in their consumption or use. This would enable consumers, through their purchases, to express their varying values. Importantly, it would reward land managers who manage in concert with those values, in part through enabling differentiation of their products on domestic and international markets. And we need to design these markets not just for food and fibre products but also for other ecological products so that communities and individuals can express their values in ways other than through the markets for food and fibre. They could work through, for instance natural resource policies and programs or they could become engaged in more direct ways through advocacy and leadership and through providing intellectual, skill and other resource inputs.

Putting aside the politicking and the strategy and communication gaffs, we have broadly based agreement to apply a market based mechanism for managing carbon, the new bloke on the block. It is ironic that we don't have an equivalent market for land management, the oldest bloke on the block.

Doing it better

But hark, already I hear claims from natural resource management agencies and 'concerned scientists' that we have market based instruments (MBIs) and water pricing. Literally of course they are correct, but let us have a quick look at what is happening, at least for the MBIs.

...an Australian exchange for improving land management open to multiple buyers and sellers.

Many of the 56 regional NRM agencies operate different MBIs. The agency is the only buyer. It uses only a small amount of the funds available to it to buy a single or very tightly prescribed suite of products. The products need to be produced within the agency's geographic coverage. These NRM 'markets' operate over short and irregular periods.

One has to be a landholder participant, as I am, to be able to fully appreciate the extreme transaction costs, the stop-start problems and the ineffective accountability provisions that plague these arrangements. For those removed from the operation of the MBIs, try to imagine having 56 stock exchanges, each with a single buyer, each operating only for a single or a small range of share categories, with shares codified differently by each exchange and with trading conditions, including when to trade, being at the discretion of the buyer.

A more attractive imagining would be of an Australian exchange for improving land management open to multiple buyers and sellers. In fact we don't need to imagine this exchange; we could make it a reality.

Australian Green Land Exchange

From our experience in the [ALM Group](#) we know that an Australian Green Land Exchange could operate for an ecologically sound, broadly based environmental improvement verified against international standards. We know also that the exchange could work for a wide range of specific ecological products building on the broader certification delivered in a competitive environment by multiple accredited providers.

The Australian Green Land Exchange would be transformational. It is part of our vision, of our plans to enable all people to Connect with Land.

These 'ecological' products could be embedded in food, fibre and tourism products, for instance, and be purchased by consumers giving preference to those products. About two thirds of people say they often try to choose products and services that are environmentally friendly but this is hampered by lack of products, cynicism about environmental claims and lack of information. The Australian Green Land Exchange would address each of these constraints.

Alternatively, the products could be 'stand alone', available for purchase in their own right. For instance, an individual or a corporation wishing to express environmental responsibility or an NRM agency or programs such as the [NFF Stewardship Program](#) could buy a verifiable commitment from a land manager, for instance, to improve her/his environmental impact or a commitment to a particular habitat.

Part of the magic of this 'one system-many benefits' approach is that buying power builds across buyers so that we are able to aggregate benefits from varying sources. This increases the benefit to the land manager and decreases the cost to each buyer for a given outcome. For instance, we have land managers with ALM Group certification who benefit from on-farm improvements and from improved motivation and self esteem as well as from the international market for wool from properties with certification and from support from publically funded NRM programs.

The Australian Green Land Exchange would be transformational. It is part of our vision, of our plans to enable all people to *Connect with Land*.

The Australian Green Land Exchange would truly enable the expression of changed and changing beliefs and values. It would enable communities and individuals beyond land managers to connect with land. It would enable public and private 'green' investment to co-exist in a low transaction cost environment. It would reinvigorate Landcare. It would free up great motivation and technical expertise now wasted in the endless and demoralising project funding minefield.

We could do it now if we wanted to.

Related reading

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ALM GROUP ACTIVITIES

We have had a month of varied activities since the last edition of [VOICES](#). The highlight for me was meetings with ALM Group landholders at Mitchell, Queensland and in South Australia.

Landholders speak of the benefits of participating. Unsurprisingly, they have lots of great ideas on how I could be a better person and on how to improve the software and monitoring tools. Many of the ideas on tools could be implemented given the necessary funding. They also seek avenues for exchange of information and experience with other participating landholders and we are working on several initiatives to strengthen this aspect of what we do. More on that shortly.

When in Adelaide I met with Executives of [Elders](#), one of our Foundation partners. Elders is involved for several reasons one of which is that they understand that they and innovative landholders will increasingly adopt certification systems that enable them to market their environmental credentials.

The development of our certification symbol is progressing. I expect we will meet our self-imposed mid-year deadline.

As flagged last month we are working to incorporate an animal welfare component in the certification system with the intention of being able to trial a system later this year.

Puzzle

For patency purposes transgenic organisms are accepted as not being products of nature and for food and drug administration purposes they are accepted as being products of nature. (Adapted from Zimdahl 2006). Now that's clear enough, isn't it?

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