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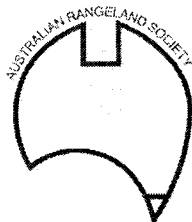
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The Australian Rangeland Society

GLOBAL INFLUENCES ON RANGELANDS OF AUSTRALIA

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INTRODUCTION

Since European settlement of the rangelands of Australia in the early 19th Century, global factors have influenced who lives in the rangelands and what they do. The industrial revolution, first in England and then Europe and the USA, drove the international demand for wool, which in turn was the economic driver of rangeland settlement in Australia.

Gold discoveries in the Kimberley, Kalgoorlie, North Queensland and other places and their communication to the world, led to migration to Australia and further settlement of the rangelands.

Today, globalisation is a much more recognised and defined phenomenon; indeed, it is a central force shaping the human condition. As the 20th Century drew to a close, the largest gathering of world leaders in history assembled for the United Nations Millennium Conference (Glenn & Gordon 2001). Globalisation was the third most frequently used term at the conference, behind "peace" and "poverty/third world". Globalisation was seen as forcing the world's populations to share space and time in a revolution driven by communication technology, impacting on the economies, technology, politics and culture and affecting the daily life of people everywhere on the planet.

The influence of the revolution in communication technology cannot be overstated. Just as it allows a pastoralist in North West Queensland to watch live as Israeli tanks roll into the West Bank, it also allows citizens of United Kingdom to watch live the mustering operations on an isolated pastoral property or indeed the culling of pest animals. Moreover, the technology, by connecting each property to the world of business and knowledge, opens up a bewildering range of opportunities and threats.

The rangelands of Australia are now part of the global community and this will shape their future. Indeed, global influences in the rangelands was considered a worthy enough topic to be featured in a paper at the VI International Rangeland Congress by Foran and Howden (1999) who identified nine global drivers of rangeland change.

While there is some coincidence between my views of global influences and those of Foran and Howden, there are two significant differences. Firstly Foran and Howden were of the view that increasing world population would result in direct pressure on the rangelands. Since 1999, a major world trend of rapidly declining rate of growth of the world's population has been confirmed. Recent estimates suggest the world's population will now peak at 9.3 billion in 2050. A decade ago this peak was expected to be around 15 billion.

Many regions of the world now have stable or declining populations, paradoxically related to wealth and lifestyle decisions in the case of Europe, North America and North Asia, or epidemics such as AIDS in large parts of Africa. Populations in many rangeland areas, including Australia, are stable or declining. Hence, these pressures for the rangelands to provide living space and sustenance will not be as large as previously expected.

Foran and Howden also indicated that the supply of crop based foods would be a problem internationally and that the rangelands would be converted to cropping to meet this need. This is not appearing likely with technology increasing the production of food grains at least at the rate at which demand is growing. Average grain yields at over 2.8 t/ha today are more than 60% higher than they were 25 years ago.

The impact of this technology driven increases in productivity can be seen in India, where in the last 20 years it has moved from being an importer of cereal grains to having a likely stock holding of around 100mil tonnes this year. Agricultural policy in India and in many other developing countries is now focussing on how to divert rural resources out of grain production into other developmental opportunities.

Notwithstanding these points of difference with Foran and Howden, global drivers are still with us. Globalisation is impacting on Australia's rangelands from direct economic impacts through to the way we, and the rest of the world, view their future. The following identifies some of these drivers and their impacts on the rangelands of Australia.

ECONOMICS

The rangelands of Australia are large in area, 568 million ha, of which 379 million ha (67%) are used for agricultural production. This production is largely extensive grazing of native pastures with very low production per hectare. In terms of world production of food and fibre, the Australian rangelands are a small producer. The presence or absence of food from our rangelands will not make any difference to the future of the world food supplies or to the world's population!

For example, in 1999/00 Australian rangelands produced approximately 885,000 tonnes of beef and sheep meat, which is 1.4% of world's total beef and sheep meat production (64,200kt)

Australian rangeland wool production is 89,999t compared to the world's wool production of 2,330,000t, that is 3.8%. While this is a measurable portion of the world's wool supply, it represents only 0.4% of the world's apparel fibre.

Globalisation is creating a single market where many existed before. Food and fibre will be produced where it best meets market specifications and market prices. Hence, our rangelands will only continue to produce food, or fibre or minerals if they can compete internationally. That is, we will not remain a supplier because the world needs our products. We will be in the business only if we are economically efficient.

MARKETS

Globalisation has fundamentally changed markets. Global sourcing, the concentration of production, processing and retailing, the affluence and global concerns of segments of the market place and the shortening of the supply chains now means that the preferences of individual markets or consumers are tightly specified and the producer is required to be part of the assurance process to deliver the required product at the required time.

The scale of retailers and their purchasing demands act against the ability of rangeland producers to supply products direct to markets. Consistency of supply and quality is paramount and the ability to provide long lines of product on a year round basis is critical. The rangelands in Australia are not always able to do this without forward integration into the supply chain.

Markets are now demanding assurance in a range of areas, including:

- **Quality**

Consumers are demanding repeatable, specified quality. Meat is not meat any more. Variation within and between years and the management of these impacts on quality are a major challenge for Australia's rangeland producers.

- **Safety**

Food safety is critical in all markets. Often this is as much about perceptions as reality. The consumers that we market to want the products to be assured free of pesticides and other contaminants. The perceptions as to the advantages of organic or GM free products in terms of safety can be important in some markets. Usually there is no price premium for meeting safety standards, rather they are a precondition for being in the market. Australia's rangeland production systems are generally free of chemical use and they are in an excellent position to gain from the opportunity to meet these market requirements.

- **Animal Welfare**

As part of their concern at the way their food is produced, consumers are increasingly focussed on how animals are treated during their life. The European markets are generally the pacesetters in this area and recent European Union directives with regard to animal transport and poultry (egg) raising are impacting on Australia. Many large retail chains have their own standards for animal welfare for suppliers, for example Sainsbury's, a large UK retailer, has its own farm assurance schemes, including a code of animal welfare which must be met by all suppliers and is underpinned by a code of practice based on the UK Farm Animal Welfare Council codes. The retailer requires five conditions to be met during the production of all meat and poultry:

- freedom from hunger and thirst
- freedom from discomfort
- freedom from disease and injury
- freedom from distress and fear, and
- freedom to express normal behavior.

Quality assurance systems are in place to ensure these standards are met. Sainsbury is also using, wherever possible, industry backed logos such as the British Farm Standard Mark, a distinctive red tractor. This mark demonstrates that the product has been produced under Farm Assurance Schemes to standards of food safety and animal welfare and environmental protection.

Tesco, another large UK and global retail chain, also has codes of practice for the production of all animal products. These codes are audited by the company on a regular basis and if the producer does not meet the standards, they don't supply Tesco. Tesco's Code of Practice for lamb production is a 34 page document which defines standards of production and welfare in detail, including the skills required by and the training of stockmen, farm infrastructure, water and feed quality, animal health, handling, including prohibition on handling sheep by the fleece, or dragging them by the horns or legs, and transport. In the case of transport, trucks must be presented clean for each consignment and stock must have a 24 hour rest period after 8 hours transport. Tesco is a premium market, coveted by WA lamb producers. However, meeting Tesco's standards is a significant challenge. If rangeland producers wish to be in these high value markets in the future they will need to be able to meet these standards.

In Australia's case we have Codes of Conduct for transport and handling of livestock. As yet, assurance systems for their application are not formally in place and I fear awareness and compliance is less than optimal.

SUSTAINABLE DEVELOPMENT

Since the Brundtland Report 1987, sustainability has increasingly become a global issue and the concept is impacting on how we use our rangelands. Markets are increasingly requiring products to be produced in a sustainable way. The mining industry, in order to access some markets, must meet life of product analysis of environmental impacts. Some markets for agriculture require certification as to how the production of a product affect the environment.

While the rangelands of Australia are generally better managed than those elsewhere in the world, the National Land and Water Audit has clearly identified many areas where sustainable practices are not in place. This knowledge will in time, if action is not taken, impact on the marketability of products from those areas. Not only do sustainable practices need to be in place, customers are requesting confirmation of sustainability. For example, a number of Australian timber exporting companies are advising that overseas customers (in particular) are requesting confirmation that the timber has been sourced from sustainably managed forests. (Primary Industry Standing Committee 2002). This generally requires certification under a national or international standard, such as the proposed Australian Forestry Standard or a national standard under the auspices of the International Forest Stewardship Council.

In Europe, retailers have responded to the consumer demand for safe, healthy food produced with minimal environmental impact by establishing European Standards for Sustainable Food Production (EUREP 2002). The standard, known as EUREP-GAP has been developed by a working group representing European retailers, suppliers, growers and associates from the service and import sectors of food industry. It is a HACCP based system to accredit good agricultural practice (GAP). Initially focussed on fresh product, drafts have now been prepared for combinable crops, livestock, floriculture and feed. Some retailers have announced that all suppliers will need to be EUREP-GAP accredited by 2004.

In response to growing consumer concerns, a clear position has been established by one of the world's largest manufacturers of food products, Unilever. The manufacturer has been working since the mid 1990's with suppliers, universities and research institutions and has developed a long term program, the Sustainable Agriculture Initiative, that defines 10 environmental, social and economic criteria for sustainable agriculture. The aim is to ensure continued access for Unilever to key agricultural raw materials, and in the long term, to develop market mechanisms that allow consumers and customers to influence the sourcing of agricultural raw materials through their buying habits.

In Western Australia, in recognition of these developments, the department of Agriculture has been working with sheep pastoralists to produce an Environmental Management System certification for meat and wool production.

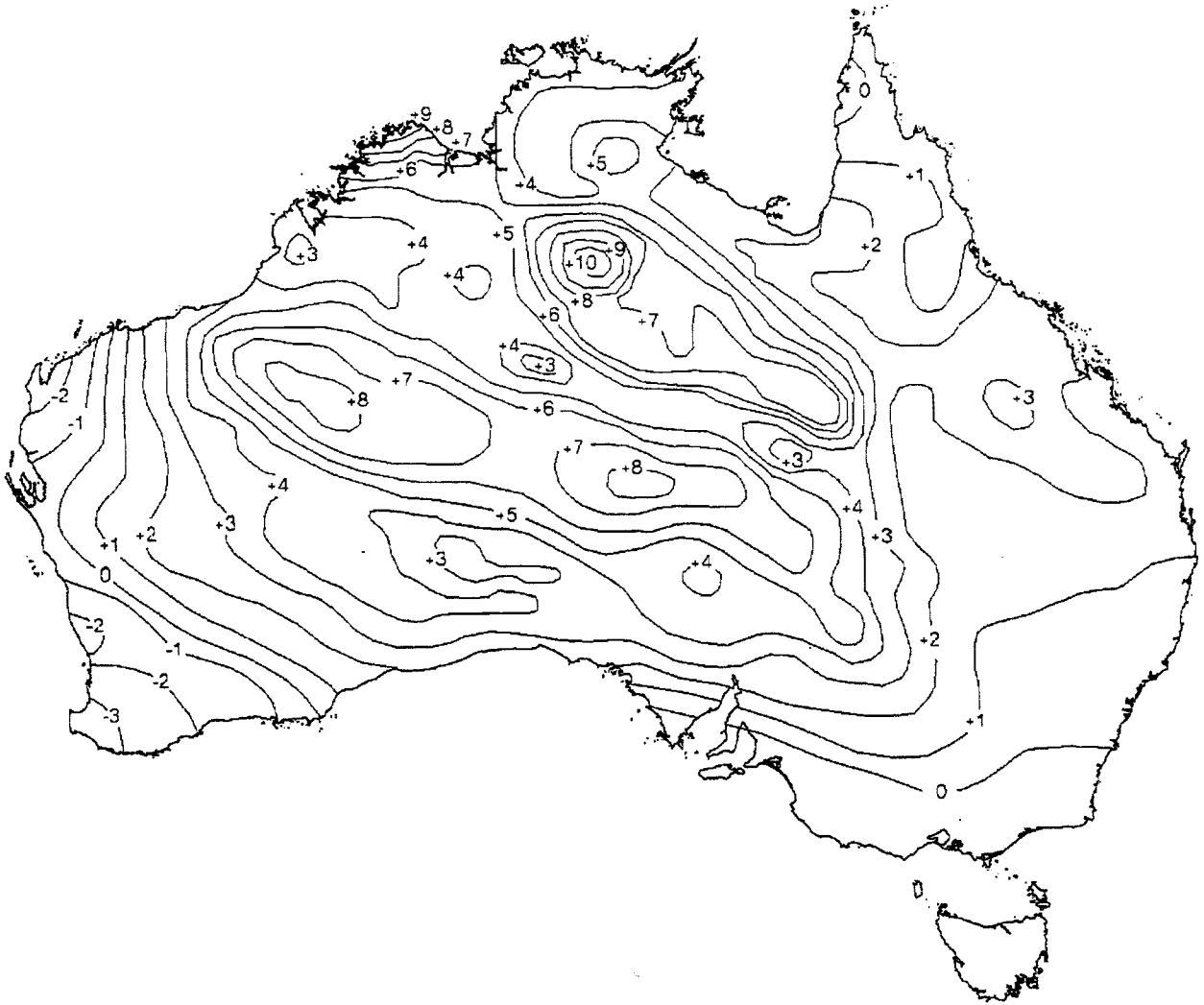
In the environmental/sustainability area a number of international agreements and concerns will influence the future of the rangelands. These include:

- **Kyoto Protocol on greenhouse gas emissions**

The Intergovernmental Panel on Climate Change (IPCC) has now declared unequivocally that greenhouse gases produced by human activity are affecting climate (Dr R.T. Watson, Climate Change 2001, July 2001). This climate change will affect the rangelands of Australia over the next 20-50 years.

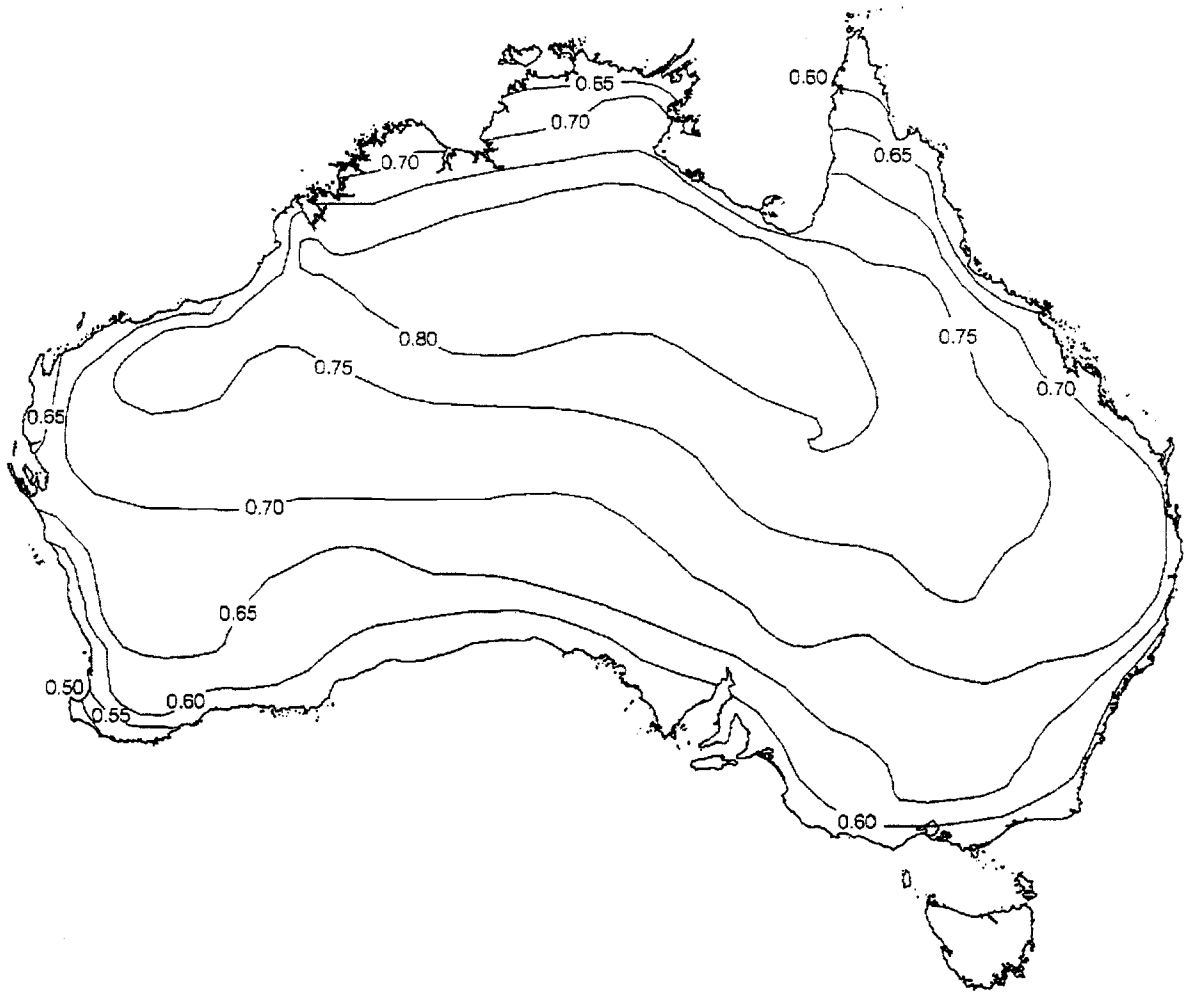
Figures 1 and 2 indicate some of the changes predicted in rainfall and temperatures.

Figure 1: Predicted Annual Rainfall Change



Precipitation change 2030, SRES marker scenario A1, 0.70C, CSIRO: DARLAM 125

Figure 2: Predicted Annual Climate Change



Temperature mean change: 2030, SRES marker scenario A1, 0.70C, CSIRO: DARLAM 125

There will be direct impacts on seasons, water availability, animal performance and hence production systems. Of more immediate impact will be Australia's response to the Kyoto Protocol. The Prime Minister has ruled out ratifying the agreement because, in the view of the current Federal Government, this would damage Australian industries and cost jobs. The protocol has been ratified by the EU and Japan but will not come into force unless signatories comprise 55% of developed countries' emissions. Ratification by Australia and New Zealand will be crucial in achieving this, given that the world's biggest emitter, the US, has refused to join. This will result in a focus on Australia, with significant international pressure being applied to achieve Australia's signature.

While Australia has committed to strive for major greenhouse emissions reductions, the concern of signatories about Australia's position may be translated to trade sanctions on specific products.

The rangelands of Australia produce significant greenhouse emissions (Table 1) and are an important contributor to Australia's total emissions.

Table 1: Greenhouse emissions from the rangelands of Australia

Activity	Million tonnes CO ₂ -e	% Australia's Emissions
Land clearing	75	14
Savanna burning	13	2
Livestock	30	6
Total rangelands	118	22
Total Australia	530	100

Source: WA Department of Agriculture estimates based on 1999 National Greenhouse Gas Inventory

These emissions are out of all proportion with the rangelands' contribution to Australia's exports and its economy. Moreover, the rate of greenhouse emissions per unit of animal product in the rangelands are much higher than in the southern agricultural regions, largely due to the lower digestibility of feed. Rolfe (2002) has estimated that the average Queensland specialist beef property produces 2352 tonnes per year of carbon dioxide equivalents as methane from grazing animals and only 39.5 tonnes of carbon dioxide directly from fuel use.

The ability of meat producers in the rangelands to respond to greenhouse targets may be critical to future market access. In particular, the Japanese population is very concerned about greenhouse and Japan and other signatories such as the European Union could impose penalties on Australian beef if Australia is not meeting greenhouse requirements in accordance with Kyoto, whether it is a signatory or not!.

While the negatives of the rangelands on greenhouse gases under their current uses are significant, there is also potential opportunities for the rangelands to contribute positively via carbon sequestration. While the sequestration would be small on a per unit area basis, the vast land area available could manage to sequester a significant portion of Australia's emissions. Already small pilots are being considered or implemented by companies, such as Centennial Coal in Western NSW and Griffin Energy in Western Australia. (pers. comm. I. Watson & R. Nussey)

- **Convention on Desertification**

This convention obliges all countries to combat vegetation decline or desertification. Australia is not at much risk in this area, although from time to time areas in Australia such as the Gascoyne Basin, have been identified as subject to desertification processes. Undoubtedly, Australia as one of the few developed countries with rangelands, is required to take a leadership role in setting standards for rangeland management.

- **International Convention on Trade in Endangered Species (CITES)**

This treaty limits the ability to commercialise and trade in species that are rare and endangered. While all would support the intent of the treaty strongly, it does legally and morally influence the way Australia might manage native species as and if their prevalence and status varies.

INTERNATIONAL TRADE

The World Trade Organisation (WTO) has provided a rational framework for managing international trade in which members are obliged to adopt a rules based system and move towards reducing tariffs and trade barriers. Notwithstanding the high profile actions by USA and EU in protecting farmers, the WTO has provided widespread benefits to Australian agriculture and will continue to do so. For example, in 2001 there were 22 major market access advances made for Australian products in negotiations against the background of WTO. These ranged from access for Australian sheepmeat to Argentina, removal of import revenue duty on Australian wool to Mexico, reduced live cattle tariffs to Philippines and a more than 50% reduction in tariffs by Saudi Arabia on 5500 items (Agriculture Fisheries and Forestry Australia 2002).

The rangelands have also benefited by the liberalisation of the beef trade into Korea as a result of Australia's representations to WTO regarding unfair practices in Korea.

The establishment of the Sanitary and Phytosanitary Agreement (SPS) as a major vehicle establishing pest and disease status and hence access of product, has given strong advantage to Australia as a result of our low disease levels. Specifically, it allows countries to restrict imports of products from countries with suspect disease status, while Australia, with its excellent animal health system and low disease status, is able to demonstrate both national and local disease freedom and hence gain access to such markets. For example, our status with FMD and our ability to demonstrate it permits access of Australian beef to Indonesia but keeps low priced Indian beef out of the market.

While membership of WTO provides a net benefit to agricultural producers, it does negatively impact on some sectors from time to time as Australia is obliged to accept products not previously imported. For example, the existence of WTO and the SPS Agreement will probably require Australia to accept assured livestock feed from Indonesia which will impact on producers of fodder in and for Northern Australia, but which would have a major positive impact on the beef production systems in Northern Australia if fodder prices were significantly reduced. Such an outcome would have been difficult politically without the rigours imposed on Australia by the WTO and the SPS Agreement. The existence of WTO should continue to be of net benefit to the export industries of the rangelands of Australia.

MULTIFUNCTIONALITY/FARM SUBSIDIES

In recent trade negotiations, Europe and Japan have introduced and developed the concept of multifunctionality of agriculture. Australia officially views this concept as a device of the European Union to find new ways to subsidise agriculture. However, the movement recognises the fact that people in developed countries no longer have concern about food supply and availability, in fact over consumption of food is considered a major health issue. Hence, agriculture is now occupying a new role in society, part of our heritage and environment. This provides justification for wealthy economies to support agriculture, just to keep it there. The recent US Farm Bill is an example of this and in US budget terms the direct subsidies to farmers is an irrelevant cost to the taxpayer. The annual cost of the Farm Bill 2002 subsidies is about \$US11 billion per annum. The US budget outlays in 2002 are \$US2,052 billion and \$US2,128 billion in 2003, therefore the US farm bill subsidies are about 0.52 to 0.54% of the annual budget of the US Federal Government. Similarly, the proposed changes to the EU Common Agricultural Policy are aimed at supporting traditional, environmentally friendly agriculture, rather than enhancing productivity.

Less developed countries such as India, Vietnam and China have similar needs to keep farmers on the land if possible – 70% of the population of these countries are farmers. However, these countries are

concerned at overproduction and are looking at policies that will retain farmers in urban communities, while agriculture and rural economies diversify and develop alternative employment opportunities.

To keep farmers farming is hence a major policy objective for much of the world and governments will continue to provide subsidies to achieve this objective. This encourages production and reduces prices and results in farmers such as Australian graziers facing ongoing competition and declining real prices.

It is unlikely that Australia will or can join the subsidised agriculture club and businesses will continue to face unfair competition. This will drive the ongoing need for increased productivity and hence businesses will need to continue to grow in scale, horizontally and vertically if they are to survive.

EXISTENCE VALUE AND TOURISM

The rangelands of Australia, and indeed the world, are increasingly developing values beyond their values as producers of meat and fibre. For example, wildly rich people such as media mogul Ted Turner, now the largest landowner in the USA, has bought ranches in New Mexico, Montana, Nebraska, Kansas, South Carolina, Florida and South Dakota. On these ranches Ted Turner runs 25,000 bison, plus he is re-establishing populations of Mexican wolves, cutthroat trout, gray wolves, swift fox, blacktail prairie dogs, California condors, black footed ferrets, desert bighorn sheep and Aplomado falcons. Interestingly, Turner sells hunting rights for elk and deer and other species for between \$Aus15,000 to \$21,000 depending on the quality of the trophy! However, the 1.7 million acres is now removed from traditional production and its economic return is being driven by non agricultural values.

A private organisation Australian Wildlife Conservancy (AWC), led by Martin and Lorraine Copley has purchased the Pastoral Leases Mt Gibson, Faure Island, Mornington and Ningaloo in Western Australia and recently Mt Zero in Queensland. (Anonymous 2002) The future use will be unashamedly biodiversity maintenance. AWC has also recently purchased 4 properties including pastoral properties from Earth Sanctuaries Ltd which through its founder John Walmsley pioneered this type of conservation.

However, you don't have to own the land to be interested in its values. For example, adventurers Denis Katzer and Tanja Hofman are part way through a West-East camel trek across Australia. Sponsored by a range of German companies, including a mobile computing and communication company, the adventurers post a daily log on their website which is followed by thousands of people.

The allure of and interest nationally and internationally in the outback of Australia is further illustrated by television programs such as Survivor and a raft of other adventure sagas. This interest is facilitated by communications technology and will grow as the world gets smaller and its population wealthier. As it develops, people around the world will increase their sense of 'ownership' of the Australian rangelands and will have more and more say in what we do in and with them.

CONCLUSIONS

While global factors have contributed to the way the rangelands of Australia have developed, the response of the rangelands and those who live in it to global pressures has been leisurely and undemanding. In the 21st century this is different. The communications technology driven globalisation of finances, business and our lives will shape the way we live in, and live from the rangelands of Australia. Globalisation is causing tensions and clashes between our traditional use and values for the rangelands and the expectations of the world markets for food, fibre, tourism and entertainment of us and our rangelands.

These pressures will require those managing our rangelands to be globally connected in order to capture the opportunities as they arise. This will require alliances, collaboration and skills, all of which are feasible and accessible in this connected world.

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