Australian Farm Institute

MEDIA RELEASE

EMBARGO: Sunday December 4th, 9.00 pm.

Dryland Salinity Threat 'Substantially Exaggerated'

The potential area of Australian farmland that is currently or might in future be affected by dryland salinity appears to have been substantially exaggerated, according to papers contained in the latest edition of the *Farm Policy Journal,* published by the Australian Farm Institute.

The papers, written by a number of experts with extensive experience in dryland salinity research, highlight that many of the assumptions and models used in the Dryland Salinity Audit of 2000 to estimate the possible future extent of dryland salinity have fundamental flaws that simply do not reflect what is actually observed on the ground. In particular, the methods used to calculate the much-touted '17 million hectare' figure, which is widely quoted as the official estimate of the potential future extent of dryland salinity, simply do not stand up to scrutiny.

'The 17 million hectare figure was calculated largely on an assumption of constant future increases in groundwater levels for the next fifty years, despite the fact that in many cases groundwater levels – and therefore the threat of dryland salinity – had actually declined and have continued to decline or remain stable since the projections were made' said Australian Farm Institute Executive Director, Mick Keogh.

Unfortunately, these projections have now become an 'albatross around the neck' of Australian farmers and are used both locally and internationally to criticise the sustainability of the industry, despite their lack of credibility.

'The best-available data indicates that approximately 2 million hectares, or 0.4% of Australian farmland is currently showing signs of being affected by dryland salinity and in eastern Australia in particular, this extent waxes and wanes depending on seasonal conditions, and has done so in many areas over the last fifty years. Economically, the impact of dryland salinity on agriculture is probably less than that of soil acidification, weeds or soil erosion.'

'While dryland salinity is an important issue that does require concerted action, a number of the papers point out that dryland salinity is often a symptom of degraded soils and pastures, and in many cases better land and pasture management can significantly reduce its extent and impact.'

A number of authors also provide details of landholder actions on farm that have significantly reduced salinised areas, without the need to plant massive areas to trees, which is often the only solution proposed.

'In both Western Australia and New South Wales, there is a growing body of research highlighting that management at a local level with salt-tolerant species, perennial-based pastures and appropriate grazing management is producing some very positive responses that reduce salinisation and increase farm profitability. The use of saltbush-based pastures, in particular, was highlighted as an option that provides both salinity and livestock production benefits and evidence is available of successful management of these pastures on saline areas extending back over fifty years.'

'The need for a much more concerted research effort to find new and productive plant-based solutions for dryland salinity management was noted by several of the authors, who pointed out that the simplistic response of massive tree planting is unlikely to be successful, would be economically very expensive, and is likely to create as many environmental problems as it solves.'

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(Abstracts of Journal Papers Follow)

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If the salt loses its savor....?

Rex Wagner, Former Research Scientist, Soil Cnservation Service, NSW (now retired)

While dryland salinity is regarded in official circles as one of the greatest threats to the health of Australia's soils, vegetation and waterways, estimates of its extent and potential impact vary greatly, and have never been subject to rigorous scrutiny. In particular, the 'rising regional groundwater' model which has been proposed as the genesis of dryland salinity in south-eastern Australia, does not correspond with observations of groundwater change and salinisation in the region over the last 50 years, even though it is used as the basis of calculations of the future extent of salinisation. Evidence now points towards a model of dryland salinity development which is localised and dependent on: soil types, perched watertables, seasonal changes and localised management decisions. Improved farming and grazing management systems are a much more feasible response to the problem than earlier proposed action such as the broad-scale planting of trees.

The National Dryland Salinity Audit 5 Years on: Is the 17 Million Hectare Estimate Still Valid or Useful?

Mick Keogh, Executive Director, Australian Farm Institute

Dryland salinity has emerged as a major challenge for Australian farmers, and frequent reference is made to the potential for 17 million hectares of Australia to be affected in the future, unless adequate measures can be implemented to mitigate the problem. A review of the genesis of the 17 million hectare estimate highlights that the figure is based on inadequate data, and that the assumptions made in developing the estimate do not seem appropriate, especially in south-eastern Australia. Given the amount of public expenditure on dryland salinity, greater effort is needed to develop a more objective assessment of the scale and likely future extent of the problem.

The Impact and Opportunity Cost of Native Vegetation Regulations: Ten Facts & One Question

Associate Professor Jack Sinden, School of Economics, University of New England

Regulations to protect native vegetation on farms have now been enacted in all States of Australia. The general impacts of this kind of legislation can be considered as an opportunity cost reducing potential farm incomes and land values. The consequences can be summarised as a series of ten facts and one question, all of which can be applied generally across the states and regions of Australia, however, there are specific data and examples available from NSW. The facts concern the role of governments and the probability and extent of an economic cost to farmers. The 'question' concerns the remaining issue still to be addressed – How much native vegetation should be protected? There may never be an answer to this question but the tradeoffs between area protected and opportunity cost must still be explored.

An Investment Framework for Managing Dryland Salinity in Australia

Dr Anna Ridley, CRC for Plant-Based Management of Dryland Salinity Primary Industries Research Victoria
Professor David Pannell, School of Agricultural and Resource Economics, University of WA

Appropriate management and policy responses for the issue of dryland salinity in southern Australia vary over a range of bio-physical and socio-economic conditions, and differ according to the resources in question (i.e. protection of water resources, biodiversity, infrastructure, or agricultural land and management of salt-affected land). The selection of management and policy responses needs careful analysis so that funds can be well targeted. Current policies rely heavily on communication, education and payment of incentives, but a broader range of responses is needed, including engineering works for key infrastructure, selective use of regulation/permits to limit planting of perennials in certain areas of high-water-yielding catchments, and development of improved salinity management technologies for farmers. Indeed, analysis indicates that there is an over-reliance on incentives and communication, which are only likely to be cost-effective in certain situations.

Old Man Saltbush: A Native Plant for Salinity Management – and Other Landuse Challenges

Richard Condon, Rangeland and Environmental Consultant

Relevant authorities consider the cost of salinity to Australia is $1 billion annually with ongoing and increasing damage, not only to agricultural lands but also to private and public urban and transport infrastructure in affected regions. The same authorities also stress the need for new systems of landuse to mimic pre-settlement landscape conditions, although new landuse systems developed from research efforts are unlikely to be available for 20–30 years. There are, however, alternative profitable landuse systems currently available which are complementary to existing farm management practices, restore the hydrological condition and, in addition, make profitable use of salinised landscapes. Landholders with established plantations of the native shrub, old man saltbush (*Atriplex nummularia*) have demonstrated its ability to survive in strongly salinised sites and to thrive on moderate salinisation. It also has an potential to generate a better economic return, under equivalent rainfall, than dryland cereal crops and many irrigated crops in low and medium rainfall regions. The key to its increased adoption is finding a way of encouraging landholders to undertake plantings on a scale large enough to make a difference to farm profitability and to impact on Australia's landscape challenges.

Policy Implications of Dryland Salinity & Land Clearing

Brian Tunstall, Ecologist

Dryland salinity and land clearing are two policy issues used to illustrate failings in the current regulatory approach to addressing environmental aspects of broad-scale landuse by farmers. In both cases, the policy approaches used by governments have involved a transition from public administrators and scientists supporting farmers to a situation where government agencies prime objectives are restricting farm activities while monopolising associated services. At the same time they are divorcing environmental considerations from social and productive aspects of landuse. This paper presents an alternate approach involving service provision by industry that integrates environmental, social and productive elements. Alternative policy options are discussed against a background of the changes needed to meet basic governance requirements.

Sustainability of Salinity-Affected Sites in Western Australia: Slaying Some Myths

Clive Malcolm, Consultant on Land Rehabilitation

Many strategies to combat dryland salinity in Australia have been developed in response to hydrological modelling which emphasises differentiation of the landscape into 'recharge' and 'discharge' areas, and which models water flows and displays exaggerated vertical dimensions. Unfortunately, the modelling does not examine the quantitative salt and water balance in salt affected areas; especially under conditions of revegetation. As a consequence some people assume that whatever happens in saline areas is dominated by the arrival of water and salt from off-site in quantities which will prevent long-term sustainable revegetation for productive use or biological conservation. Contradicting this assumption, are the original saltland revegetation research sites in Western Australia which reveal a high proportion of the sites are long-term sustainable for the growth of forage halophyte shrubs. Many current policies on salinity research do not take this into account and as a result there is highly inadequate funding of saltland revegetation relative to catchment treatment. There is an urgent need to change policies to give more priority to understanding and implementing the revegetation of saline soils in order to reap the major benefits from grazing and environmental improvement that will result.