

Agriculture and the Environmental Imperative

Editors

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Environmental Imperative

Foreword



Chief Scientist

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Australia presented to its European settlers a poor natural endowment for agriculture. The continent was dry; the soils relatively infertile and fragile. They applied the farming practices with which they were familiar but these were suited to richer soils and plentiful rain. Through continuous innovation, technical skill and determination, Australian agriculture has often led the world in productivity, however it is now apparent that this productivity has come at considerable expense. As these papers demonstrate, agricultural development has led to serious land degradation, loss of water quality and declining biodiversity.

These problems present demanding challenges but they also provide us with a unique opportunity. If Australia is able to develop the knowledge and expertise to address them, the export potential of this knowledge would be enormous. There are compelling international examples of this link. Japanese efforts to tackle industrial pollution in the 1970s, led to world leadership in exports of pollution control equipment in the 1980s. West German companies, faced with the problem of restoring contaminated land in the East, managed to develop remediation technology and have since built export business around their technology and expertise.

Australia's agricultural products are positioned in world markets as being 'clean and green.' Given that the world market for agricultural products is extremely competitive, it is imperative that Australia builds on this image and backs up the promotion with workable programs which achieve results. Detailed analysis must address the allocation of risk between agricultural productivity and environmental sustainability. In this regard, the work of the 9th Australian Agronomy Conference (for which this book was written), on 'Growing a Greener Future' is highly relevant.

There are several encouraging national and regional initiatives which indicate that we are prepared to seize the initiative. Work of the Prime Minister's Science, Engineering and Innovation Council (PMSEIC), the Cooperative Research Centres (CRC) Program and Rural R&D Corporations underpins the information base on which technical, engineering and scientific solutions must be built.

The papers presented in this monograph reinforce the "Environmental Imperative" that must mould agricultural practice in the new millennium.

A handwritten signature in black ink, appearing to read "John W. Stocker".

John W Stocker

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Preface

This book endeavours to provide an account of contemporary scientific knowledge in respect of some of the major environmental problems in dryland farming regions of Australia. The authors of each technical chapter were challenged to review the biophysical mechanisms responsible for environmental problems, while taking into account the social and economic factors influencing these problems and their solutions. We also included a chapter on the way that rural policy affects natural resource management and finished with a chapter that raises contentious issues that need to be addressed by farmers, scientists and government if Ecologically Sustainable Development is to be achieved.

We hope that the book makes a contribution to the convergence of the attitudes of farmers, environmental scientists and government in the search for sustainability. Farmers achieve their livelihood whilst contending with droughts, floods, market insecurities, recessions and exchange rate fluctuations. Threats to security of tenure or limitations on farming activities due to environmental and other legislation raise the ire of farmers and may further entrench their position regarding resources. Environmental scientists, many farmers and a broad section of the community are aware of the hidden costs of production in terms of biodiversity loss and degradation of the soil and water resources in farming regions. Sections of the environmental lobby point to the clearing of the landscape and erosion, salinity and acidity as evidence that primary producers have little regard for preserving the environment. At the extremes, both farmer and environmental groups accuse each other of having special political influence.

During much of the development of dryland farming regions in Australia, lack of understanding of the unique combination of poor soils and variable climate led farmers and governments to promote management practices that caused the eventual degradation of land and water, and the loss of native species. We have progressed. There is now a well-advanced understanding of environmental capability achieved through research and it is no longer acceptable for land managers to continue to use practices that exacerbate land degradation. It is clear, given the success and continued development of the Landcare movement and Catchment Management Committees that many farmers desire reclamation and sustainability. We have a long way to go in achieving sustainability of production and ecological processes, but it is no longer appropriate for farmers and environmentalists to be adversarial. More will be achieved by both parties working together for sustainability both in environmental and economic terms. To achieve this, however, requires governments of all persuasions to play their part in ensuring the appropriate legislative support that provides a holistic approach is put in place.

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