

**THE GARDEN OF AUSTRALIA: AN ANALYSIS OF RESOURCE USE AND ENVIRONMENTAL
CHANGE IN THE GOULBURN VALLEY.**

by

Arlene Maree Cook,
M.Agr.Sc. (Melbourne)

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DECLARATION

I certify that the substance of this thesis has not already been submitted for any degree and is not currently being submitted for any other degree or qualification.

I certify that any help received in preparing this thesis, and all sources used, have been acknowledged in this thesis.



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For $J^{\epsilon}_{\pi gm}$

ABSTRACT

The Goulburn Valley is an important irrigated agricultural region of south-eastern Australia that is subject to a range of human-induced land degradation and water quality problems, including soil salinisation and waterlogging, soil structural decline, and excessive nutrient runoff. The physical processes behind these problems are well understood, but their causes may also be traced to historical socio-political factors. In particular, although human-induced environmental change commenced during the period of Aboriginal pre-history, the present-day problems of the Goulburn Valley appear to have arisen from the failure of successive waves of European settlers (pastoralists, crop farmers, irrigationists) to perceive the biophysical (climatic and edaphic) limitations of the region for the desired forms of agricultural settlement. To account for these apparent historical cognitive failings, the 'Goulburn Valley' is treated in this thesis as a dynamic socio-agricultural system, comprised of feedback relationships between two principal components - an official or policy-making component, and a subordinate collective of landholders. The behaviour of the two groups during the various historical phases of settlement is analysed according to a 'situational interpretation' approach, in which the actions of policy makers and land users comprise the basic data, and are examined as responses to the decision-making influences of the time. These generally included biophysical information, but also ideological, political, economic, technological and cultural factors. This conceptual framework provides support for the hypothesis that available knowledge of the biophysical environment was repeatedly disregarded by either or both of the two system components in favour of other resource-use considerations, ranging from ideologically- and politically-inspired expectations of land use capability, to the personal work preferences of landholders. In systems terms, this means that not all feedback loops were fully functional, which contributed to internal systemic stresses and maladaptive interactions with the biophysical environment throughout much of the period of European settlement. More recent approaches towards natural resource management espouse the systemic principle of sustainability, but non-biophysical factors appear certain to remain dominant influences on resource use decision-making in the region into the foreseeable future.

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