

(iv) Abstract

The project focused on using the Macquarie Valley Integrated Quality Quantity Model (IQQM) to translate current irrigation water access rights to capacity shares. The IQQM was found to be unsuitable for estimating capacity shares, where reservoirs exist in series, due its inability to transfer water between user shares in different storages. However, a methodology was developed to retrospectively estimate capacity shares through analysis of the output from the IQQM. In the case of the Macquarie Valley all consumptive water use demands could be met from regulated flows.

It was observed that an efficient allocation of unregulated flows could be achieved through time-based capacity shares that would allow increased availability of water at times of high demand without increasing overall access.

The project also involved the education of potential capacity share holders, and led to the publication of several papers addressing both general topics, and the particular concerns of stakeholders.

A framework for a water accounting package was developed in the form of a relational database, using Filemaker Pro™. The database has been designed to incorporate information transfer via the Internet, the generation of transmission loss estimates, and facilities for conditional ordering, where releases are made only when expected loss falls below a specified level.

9. Special Considerations

The objectives referred to in the body of the report were contained in the original research proposal, with a budget including in kind support from the DLWC. High-level changes in personnel at the DLWC meant this aid was not forthcoming at the institutional level. DLWC staff members, however, provided informal support. The project was due to start in 1993/94, but was delayed two years, waiting for the Namoi IQQM to become available. The model when supplied was incomplete. Current estimates are that it will be ready for use at the end of 1999. The Macquarie IQQM was supplied as a compromise to enable this project to proceed.

References

- Bryant, M.J., (1994) *New Water Allocation Systems for Irrigators*. In proceedings of the Australian Cotton Conference, Broadbeach, Queensland, August 1994.
- Dudley N.J. and Bryant, M.J., (1995) *The Concept of Capacity Sharing, and Responses to Questions Posed on Implications for Irrigators*. A discussion paper prepared for the Cooperative Research Centre for Sustainable Cotton Production, and the Cotton Research and Development Corporation.