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COMMUNITY VIEWS ON LAND AND WATER MANAGEMENT IN THE HERBERT CATCHMENT, QUEENSLAND

A longitudinal study of community attitudes and behaviour related to land and water management in the Herbert River catchment in northern Queensland has been completed. This study formed part of a broader project led by CSIRO Tropical Agriculture and funded by LWRRDC. The main aim was to identify factors that facilitated or hindered the implementation of Integrated Catchment Management (ICM). In general, many of the findings of the first survey in 1996 (see *Water in Society*, Winter 1997) were repeated in the 1998 survey.

Those participants in Survey 1 who had indicated they would be prepared to complete a similar questionnaire in the future were again invited by telephone to participate in Survey 2. Additional residents were also contacted, making a total of 803 telephone invitations to both the urban and rural populations of the area. Overall, 401 people were involved in Survey 2, a 50% response rate, slightly lower than the response rate in Survey 1 of 60%.

In relation to land and water management issues, questions covered:

- perceived importance;
- perceived impacts;
- knowledge of government strategies;
- views on responsibility, control, and government;
- awareness and intentions to become involved; and
- involvement in groups.

Specific to ICM, questions related to:

- activities it should undertake;
- awareness and perceptions of the Herbert River Catchment Coordinating Committee;
- awareness of catchment resources;
- manageability of catchment management;
- how ICM should work with local government; and
- perceptions of funding contributions by government, industry and the community.

Some of the major findings, and their implications for ICM, were as follows.

- Community attitudes were relatively stable over time and it needs to be acknowledged that it will take some time for them to change.

- Continuing close involvement with local government, and reporting on this involvement to the community, will be very important for ICM in the future. In addition, activities were identified by the community as key priorities for ICM, such as encouraging joint projects; raising local awareness; and gaining a better understanding of environmental problems.
- There was awareness of land and water management problems, signifying support for ICM to tackle these problems on a number of fronts. However, employment issues were uppermost in people's minds, suggesting that ICM needed to acknowledge that while people may support their activities, their first priorities lay with "life issues".
- Although the awareness level of ICM was encouraging, it could be improved, particularly in urban areas and the upper catchment generally, which will be assisted by the new upper catchment committee.
- Although the level of community awareness of the Herbert River Catchment Co-ordinating Committee (HRCCC) was encouraging, it had not increased in the two years since Survey 1 was conducted. Awareness could be improved, particularly regarding the specific activities of the HRCCC.
- It will be important for ICM to address the perceptions of impediments to managing land and water in the Herbert, perhaps by encouraging timely responses from government; encouraging financial support for ICM; developing and promoting solutions; encouraging improved formal and informal communication between the government and the community; and improving understanding of land and water management problems.
- Overall, the differences between perceptions of current funding contributions and perceptions of how much government, industry and farmers should be contributing were quite small. This indicated that the overall system was perceived to be reasonably fair and showed a preference for fairly even monetary contributions by the different parties.

The full report of the study is available from ARCWIS \$35. McCredlin, J.A. & Syme, G.J. (1999).

Land and water management in the Herbert River catchment: A longitudinal study of community views. CSIRO Land and Water Consultancy Report No. 99-38.

A summary report is also available from ARCWIS \$15. CSIRO Consultancy Report No. 99-39.



DERIVING AN APPROPRIATE LEVEL OF SERVICE FOR AESTHETIC CHARACTERISTICS OF DRINKING WATER

ARCWIS has completed the first stage of a study examining aesthetic preferences for drinking water quality for the Water Corporation, Western Australia. The Corporation needs to establish whether consumers would regard proposed improvements in water quality as sufficient to justify the extra cost for their household water supply. The investigation has been designed in a four stage process, the conduct of each successive stage dependent on the results of the last.

Participants for the first stage were randomly selected Perth residents from three categories of normal scheme water quality, ranging from 'usually high quality' through 'aesthetically variable water supply' to 'usually some aesthetic problems'. Of the 120 people who agreed to participate, 110 did so on the day.

Nine different water samples were used: four representing a range of current scheme water qualities (from both surface and groundwater sources) and the remainder representing various improved qualities. The nine samples were presented in random order and rated for their odour, taste and overall quality. Thirty-six paired comparison tests were then conducted for participant preferences, again in terms of odour, taste and overall quality. Similar tests were conducted some weeks later with half the original participants, this time testing preferences for water samples with seven different levels of chlorine.

The second stage of the study will investigate aesthetic preferences of bottled and scheme water samples. Should the third and fourth stages go ahead, they will use data from the first two stages and look at "willingness to accept and willingness to buy" and "policy preferences and current household investment in water quality issues", the latter through a city-wide survey.

IMPLEMENTING STAKEHOLDER-BASED RIVER MANAGEMENT COMMITTEES FOR MAINTAINING ENVIRONMENTAL FLOWS

The need to derive and maintain environmental flows in modified river systems has become increasingly evident in recent years. On many occasions, scientific data or agreement on what can be regarded as adequate environmental flows is lacking. In any event, in modified rivers, what is appropriate as an environmental flow is the result of subjective value judgements on what life and human activities the river should support. Long term community support will be needed to define and maintain environmental flows in rivers and so will require community-based systems which are seen to allow for fair decision making with input from the range of community stakeholders. These systems require a clear definition of the role of Government, and a recognition of community responsibility for ongoing action.

The final stage of a LWRRDC funded study investigating community-based systems has just been completed. This project followed on from a Pilot Study conducted in Northern Tasmania, which developed a preliminary process for the community definition and management of minimum stream flows for Claytons Rivulet. The first stage focused on the Namoi Valley in northern New South Wales prior to and during the government's

establishment of the River (Regulated) Management Committee. The report from that stage outlined stakeholder-based principles for defining environmental flows in modified rivers (Nancarrow, Syme and McCreddin, 1998) reported in *Water in Society*, Winter 98. This final stage of the project reports on the evaluation of both the Claytons Flow Management Committee and the New South Wales River Management Committees.

These committees are at the two ends of the spectrum. Claytons Rivulet is an unregulated stream with several tributaries in a tiny catchment which can be traversed by car in about twenty minutes, and includes one major town and a number of small villages. The Tasmanian Government was looking to this trial with a view to establishing workable processes across the Northern Tasmanian region. The NSW evaluation involved a State-wide government initiative to assist in meeting COAG water reform requirements. Stakeholder management committees had been gradually established in large catchments across New South Wales where there were both regulated and unregulated rivers, and included a number of major towns and smaller settlements.

Despite the vast differences in the two situations, a number of common issues and problems emerged which allowed the derivation of generic guidelines and recommendations for roles and responsibilities in the implementation of community management of rivers to ensure environmental flows.

The full report of the study is available from ARCWIS \$20 Nancarrow, B.E. and Syme, G.J. (1999).

Implementing Stakeholder-Based River Management Committees for Maintaining Environmental Flows. CSIRO Land and Water Consultancy Report No. 99-48.

INTERNATIONAL PERSPECTIVE ON ALLOCATION "FAIRNESS" IN ENVIRONMENTAL MANAGEMENT

P.D. Dr Elisabeth Kals has just returned to the University of Trier in Germany after spending two months working with ARCWIS. The research group at the Psychology Department at the University of Trier has been approaching the community definition of justice in environmental management in a similar way to ARCWIS's work on water allocation. Therefore, collaboration on further theoretical development seemed prudent for the betterment of both groups' work. This has resulted in the formulation of a cross-cultural model to measure the determinants of justice and fairness in ecological risk decisions. Efforts are now concentrating on the development of a joint investigation to test the model over the next few years.

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