

Irrigation mosaics – do they have a role in northern Australia ?

A new study suggests that discrete patches of irrigated land dispersed across the landscape may be a viable alternative to traditional large-scale irrigation systems.

The study is part of the Northern Australia Irrigation Futures (NAIF) project, an alliance which provides knowledge and tools to support decision-making on irrigation in northern Australia.

“There is increasing pressure on water resources in Australia’s north, where tropical rivers discharge some 70 per cent of the nation’s fresh water,” says Cooperative Research Centre for Irrigation Futures (CRC IF) project leader, Dr Keith Bristow.

“To maintain the integrity of this region's unique and diverse ecological systems, decisions about the future extraction of water from the rivers and groundwater must be based on the best science available.”

According to Dr Bristow a mosaic-style approach to irrigation may provide a viable option to help improve social and economic opportunities for remote rural communities in the tropical north.

“If properly integrated into different landscapes and ecological zones, a mix of small-scale irrigated patches could help reduce surface and deep drainage, minimise erosion and decrease nutrient loss relative to large-scale irrigated areas.”

The mosaic system differs from the irrigation approach used in most parts of southern Australia, which are characterised by large-scale contiguous irrigation systems. Few areas, apart from market gardens close to large cities, consist of small patches separated by larger tracts of unirrigated land. Large irrigation areas are attractive from an engineering and economic point of view as they offer ‘economies of scale’.

Jeff Camkin, NAIF sustainability specialist, agrees the research suggests mosaic irrigation may be better suited for tropical conditions.

“In the north, land ownership is different than the south with indigenous communities managing large proportions of land. Mosaic style irrigation development could present an opportunity for communities to develop new, sustainable enterprises.”

“For example, mosaic irrigation could help cattle stations to diversify and integrate sustainable irrigation with other aspects of their enterprise,” says Mr Camkin. “But it is early days. While we understand some of the biophysical pros and cons,, we now need to understand their potential social, economic and ecological performance.”

Over one hundred irrigation and water scientists associated with CRC IF are meeting in Townsville this week to discuss ways to link research with the irrigation industry.

The CRC IF is a partnership of universities, state and federal government agencies, water service providers and industry. It exists to provide tools and knowledge for better decision-making about irrigation in Australia. For further information see www.irrigationfutures.org.au and <http://www.clw.csiro.au/naif/>

Interviews: Keith Bristow, CSIRO Land and Water / CRC IF, 0408 468 941
Jeff Camkin, CSIRO Land and Water / CRC IF, 0409 082 341
Media assistance: Kelvin Montagu, CRC IF, 0404 843 561