# Economic Impact of Water – Northern Inland NSW

Water is a key input to both productive and environmental processes in the Northern Inland region of NSW. Irrigated agriculture is the primary economic use of water in the region, with cotton production representing the activity with the highest socio-economic benefits.

## Key messages

- Agriculture represents 40% of the regional economy in some areas (e.g. Gwydir and Namoi) in a normal season.
- Irrigated agriculture represents 20% of the regional economy in some areas in a normal season.
- Irrigated crops generate higher regional economic activity than dryland alternatives
- Every GL of irrigation water provides 3-6 jobs in the regional economy.

## Northern-Inland Region

The economy of the Northern Inland region is dominated by agricultural production. In the west of the region, this includes a wide array of irrigated agricultural crops such as cotton, sorghum, maize, oilseeds, chickpeas, wheat, barley and faba beans.


Irrigated agriculture is a key activity on the slopes and plains in the west of the region

In the eastern parts of the region, dryland grazing and cropping dominate, and increasingly irrigation water is being used for viticulture.

In 2009-10, there were 7,260 agricultural businesses in the region, representing 7.81 million hectares, or 13.3% of the total NSW agricultural land area.

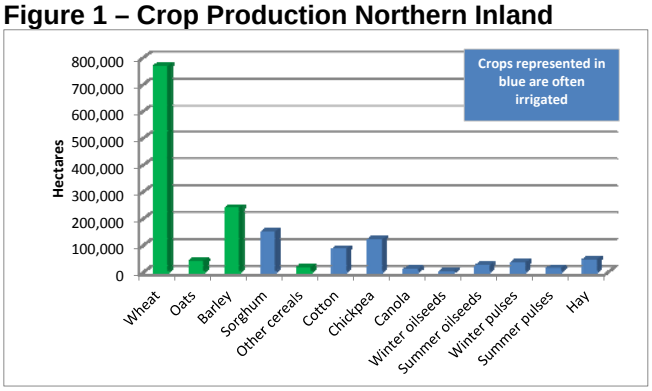
## Irrigated agriculture

Water for irrigation is supplied from both surface and groundwater under licencing arrangements with the NSW government.

Irrigated cotton crop using new water efficient overhead irrigation technology

While wheat dominates the area sown to crops (Fig 1) and may be irrigated, it is often

**Figure 1 – Crop Production Northern Inland**




Source: ABS (2011)

grown as a dryland crop in rotation with higher value irrigated crops such as cotton and sorghum. In the east of the region, particularly around Tamworth and Quirindi, irrigated lucerne is an important crop grown for stock-feed.

## Socio-Economic Benefits

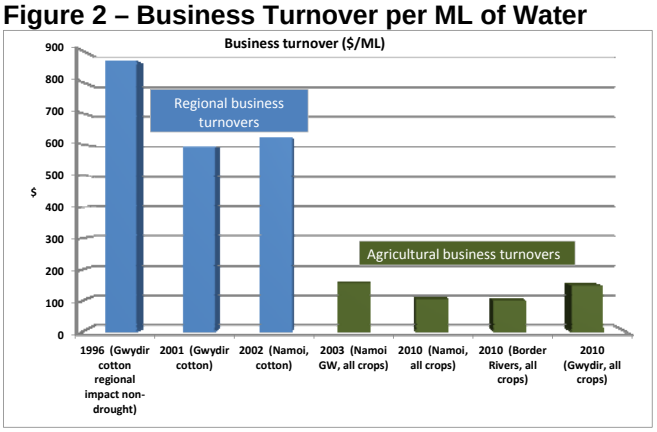
Agricultural activities source many production inputs from the local area, and inputs for irrigated agriculture tend to be significantly higher than for dryland agriculture.

This pattern of input purchases generates flow-on economic benefits for the rest of the regional economy. These flow-on effects are of two types:

1. ***Production-induced flow-ons*** – where agricultural input purchases (e.g. fertilizer, chemicals, machinery repairs) generate economic activity in other regional businesses (e.g. farm suppliers, mechanics);
2. ***Consumption-induced flow-ons*** – where the earnings and wages of farm owners and their employees are spent in local businesses (e.g. groceries, clothing, other services).

Over the years, a range of studies have been conducted to measure these benefits, and these are summarised in Figs 2-4.

**Figure 2 – Business Turnover per ML of Water**

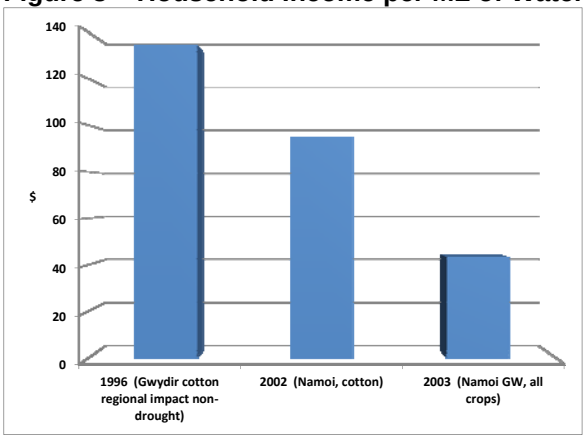



Source: Various studies from 1996-2010

There is considerable variation in these figures for a number of reasons, including:

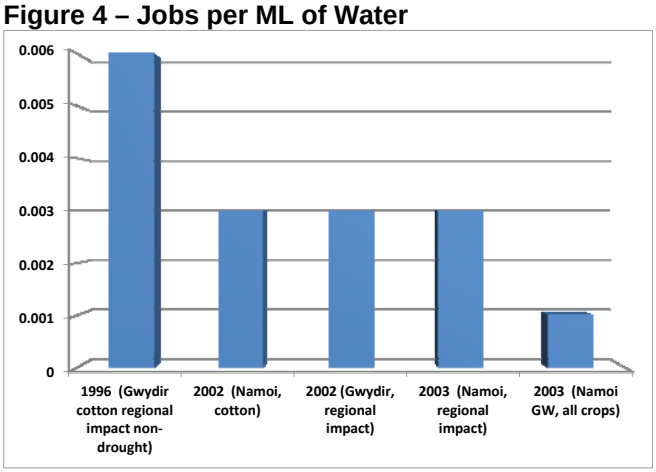
- Whether business turnover is measured at the farm gate, or includes all the flow-on effects to other businesses (e.g. Fig 2);
- Whether the study was based on a 'normal' season or not;
- Whether the study accurately calculated the economic multipliers for the region in question, or 'borrowed' multipliers from other studies.

**Figure 3 – Household Income per ML of Water**




Source: Various studies from 1996-2010

**Figure 4 – Jobs per ML of Water**




Source: Various studies from 1996-2010

## Irrigated versus Dryland

Overhead spray irrigation, travelling irrigator

A study[1] conducted in the Gwydir region found that the regional economic benefits derived from irrigated agriculture were significantly higher than for crops grown only using rainfall:

- Rainfed cotton generated 40-50% of the economic impacts of irrigated cotton;
- Other dryland crops generated 10% of the impact of irrigated cotton;
- Each ML of water used on cotton generates $1,000 gross output value and $600 of value-added.

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[1] Powell and Chalmers (1996) – although an old study, the general findings still hold today.