



## Smart Questions to Ask When Investing in Irrigation

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Investing in the purchase of water or an irrigation dam is a major decision, similar to the purchase of land. Opportunities are infrequent, and the investments are for the long-term; both land and water purchases add to the lasting physical resources of the business. These investments provide the opportunity for the business to grow. So when opportunities arise they need to be very carefully considered.

This Fact Sheet describes issues that irrigators might consider when there is an opportunity to source new water for irrigation. The issues and questions fit into three time-scales:

1. Current situation – do you need or want more water now?
2. Short to medium term – do you have plans that depend on more water; say in the next 5-10 years?
3. Longer-term; what is the potential for irrigation on the property?

Within each time scale, the questions are similar;

- ***How much water do you need, or want, and what is currently available?***

What flow rate is needed? This requires an audit of water requirements and the available sources, with particular attention to the reliability of each source.

- ***What are the options to source more water?***

Consider their reliability and capital and annual costs? New Direct Takes (i.e. direct pumping from a stream for irrigation) are rarely available, but winter takes into storage are possible in many catchments. Dam sites need to be assessed for water yield, engineering (spillway size, suitability of fill materials and hazard rating), natural values and cultural heritage issues). Investigations can be expensive, and there are risks that sites may not be approved. Groundwater flows are commonly too small to be viable for irrigation, and groundwater in the low rainfall areas of the State is often saline.



- **Financial issues; will the investment be profitable? Is it affordable?**

This requires a financial analysis considering the capital and operating costs, including the Gross Margins for the proposed irrigation enterprises. Irrigation investments generally need significant capital investment up-front, with the additional returns for the first 3-5 years or more being applied to the interest and principal costs of the capital investment.

- **Other benefits.**

There are often other benefits that are harder to quantify, but just as important to consider.

This includes opportunities to diversify the farming enterprises and better manage the risks of dry seasons, capacity to sell water and possibly increased land value.

There are other issues that need to be considered, such as the environmental sustainability of the irrigation, and the personal aspirations of the landowners. Environmental sustainability is assessed in the Water Access Plans for land where water from Tasmanian Irrigation will be used. Deciding whether to invest in irrigation could be determined by succession plans.

### 1. Current situation - where are you now?

Current water demand and resources – do you need extra water for your current irrigation enterprises and plans?

The water audit needs to consider:

- Current areas of crops and fodders
- Average irrigation water requirements and additional requirements in dry seasons
- Allowances for application losses and inefficiencies, and evaporation and seepage losses in dams.
- The reliability of Direct Takes, particularly in catchments where restrictions are likely.
- The reliability of dams filling each winter, particularly in catchments that are heavily allocated.
- Transmission losses for water transferred via rivers.
- Peak demand and supply capacity for piped systems.

Options to source more water include new storage dams, groundwater, trading, transfers and purchases. Getting approval for a new dam (or enlarging an existing dam) often takes months to years, with lengthy and costly investigations; so investigations need to start early. Drilling for groundwater is expensive, and risky.



The financial analysis needs to estimate the extra income that will be produced, and the extra costs usually based on the Gross Margin for the new crops and fodders. Remember to allow as a cost, the income that would have been produced from the land without the irrigation. Capital costs include both the water resource, as well as the irrigation infrastructure.

The analysis should show whether the investment will be profitable, and whether it is affordable. It is very common for the extra income from new irrigation investments to all be required to meet the capital and interest costs for the investment for the first few years.

## 2. Where do you want to get to in the short-term?

What are the short-term goals for the farming business, say in the next 5 years, and what do those plans mean for irrigation water resources. Once these goals are clear, the same questions need to be considered; i.e., how much extra water is needed, where can it be obtained, and will it be profitable and affordable.

## 3. The long-term – what is possible on the property?

In addition to the questions highlighted above, the longer-term view requires an assessment of issues such as the following:

- The potential for irrigation on the property; what is the area of irrigable land (suitable soils, topography etc).
- What could be grown (potential crops and fodders) and how would it be irrigated.
- The potential for water sales (on a temporary or permanent basis).

**Other sources of information.** The Department of Primary Industries, Parks, Water and Environment website ([www.dpipwe.tas.gov.au/agriculture/investing-in-irrigation](http://www.dpipwe.tas.gov.au/agriculture/investing-in-irrigation)) provides a range of tools and useful information about investing in irrigation. This includes business planning tools such as enterprise gross margins and investment analyses, enterprise and crop suitability tools, market information, and irrigation fact sheets.

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