

WATER USERS AND GOVERNMENT COLLABORATION: A RECIPE FOR SUCCESSFUL GROUNDWATER GOVERNANCE

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Groundwater: SA

- **20% of agricultural water use**
- **78% used for irrigation**
- **Mining uses 3-4% of available water**
- **85% of mines use groundwater**
- **Rural development and expansion of energy sector and large industries will increasingly become more dependent on groundwater**



Governance

“the process through which government, sometimes but not always in association with the private and civil society perform their functions.”

(Jonker *et al.* 2010)

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*act DDG: P & R
for your urgent attention*

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Reference: MM17/8/9(sdt)

14 March 2007

The Director General
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→ *act: DDG: P & R
(Harrison Pienaar)*

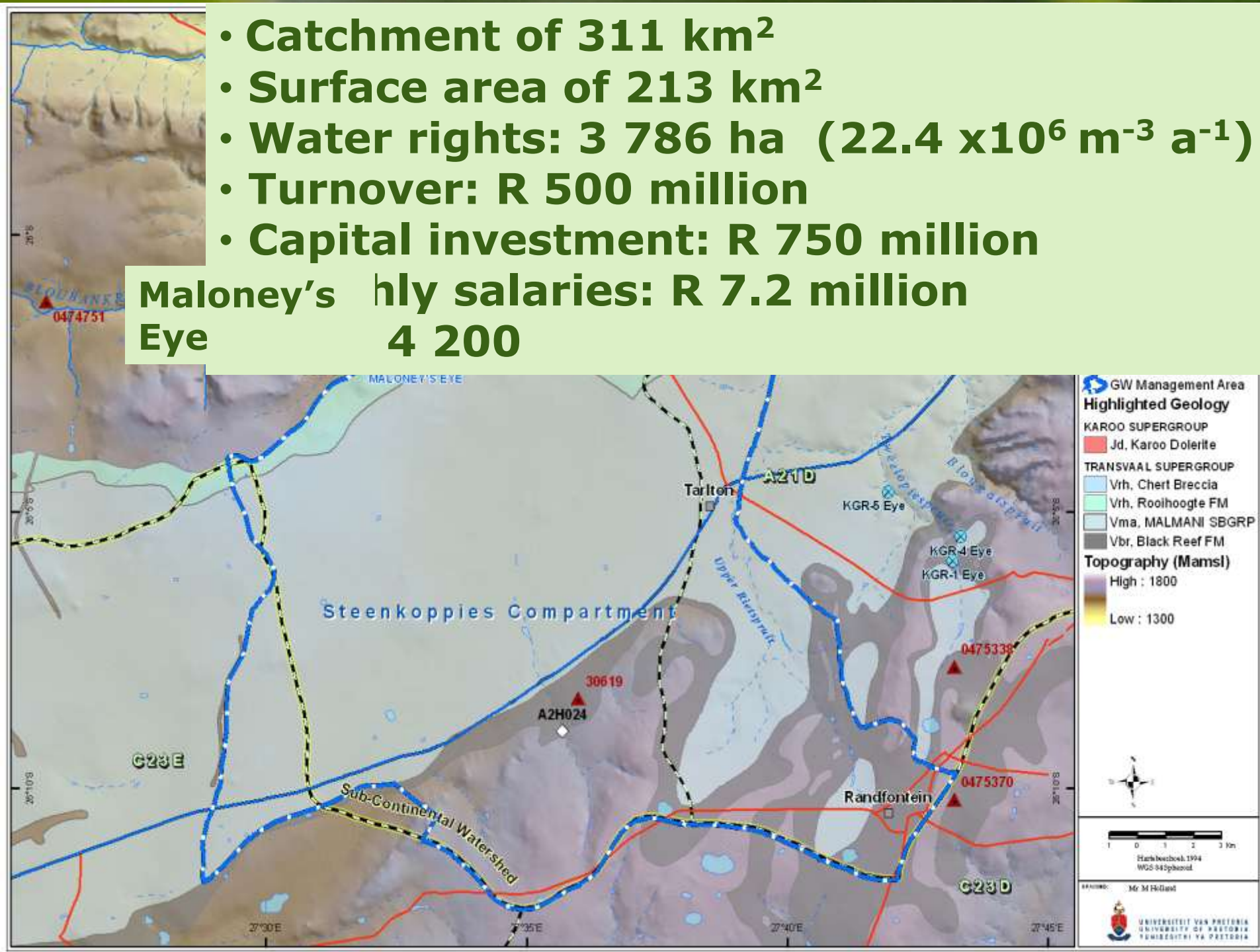
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Attention: Mr Jabulani Sindane

**SERIOUS WATER SHORTAGES IN THE MAGALIESRIVER CATCHMENT
(CATCHMENT A21F) AND THE STEENKOPPIES DOLOMITIC COMPARTMENT,
TARLTON AREA**

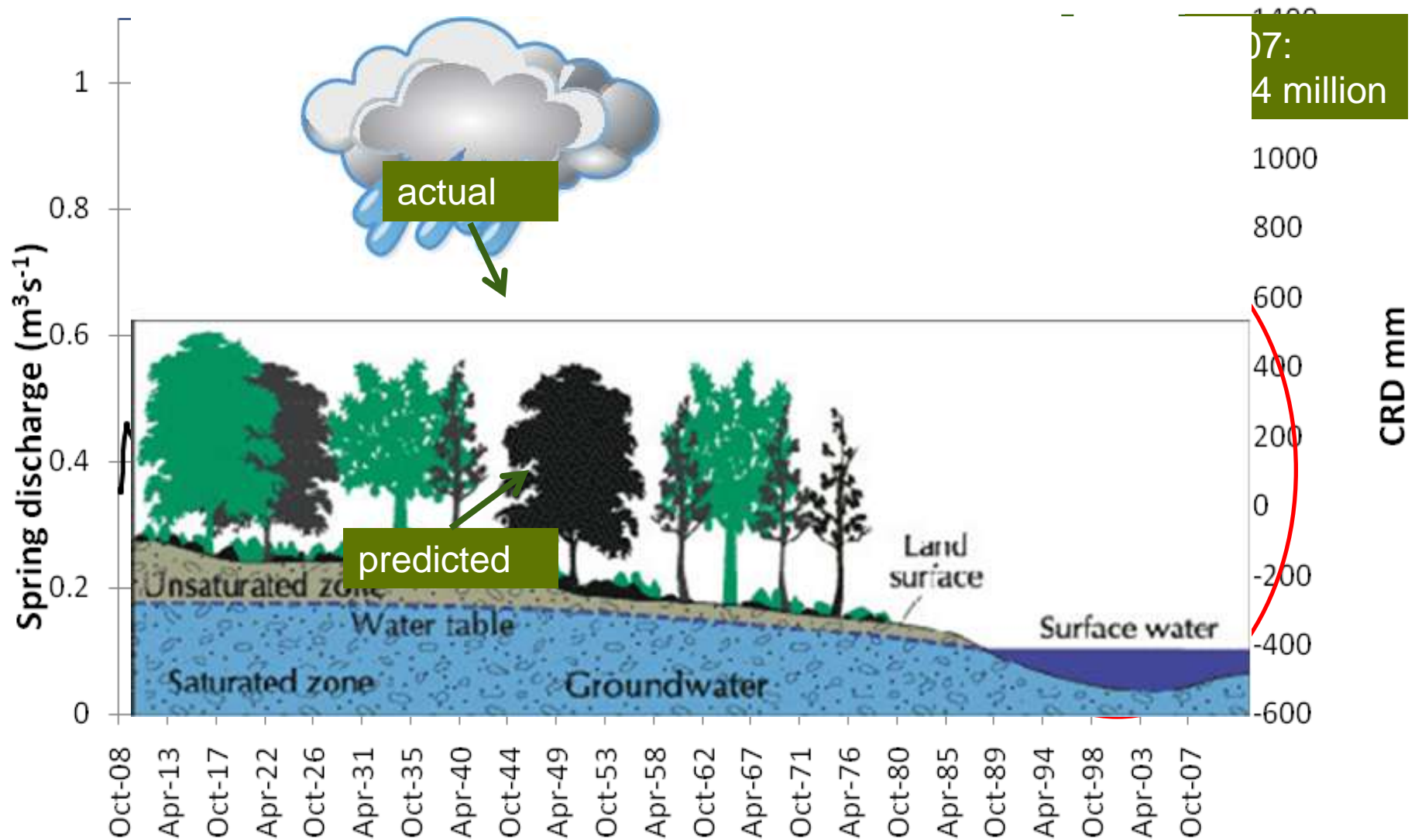
- Catchment of 311 km²
- Surface area of 213 km²
- Water rights: 3 786 ha ($22.4 \times 10^6 \text{ m}^{-3} \text{ a}^{-1}$)
- Turnover: R 500 million
- Capital investment: R 750 million

Maloney's monthly salaries: R 7.2 million
 Eye 4 200



So what is the problem?

Abstraction
(m^3a^{-1})





How do we solve this?

- **Responsibilities**
- **Information**

Responsibilities

Government

First task:

Provide water for domestic use

Second task:

Ensure sustainability

Farmers as water users

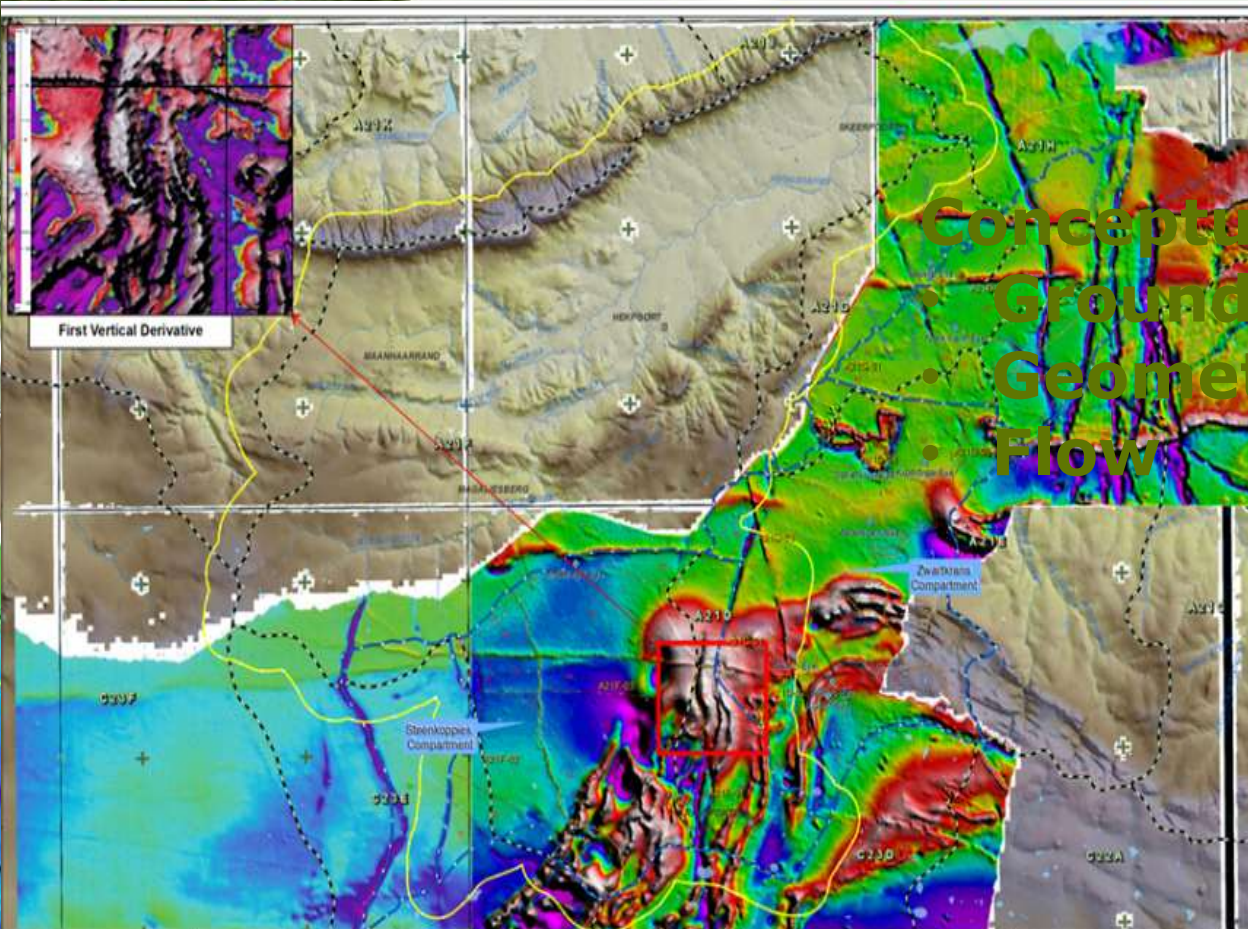
Optimal water use

Minimise risk

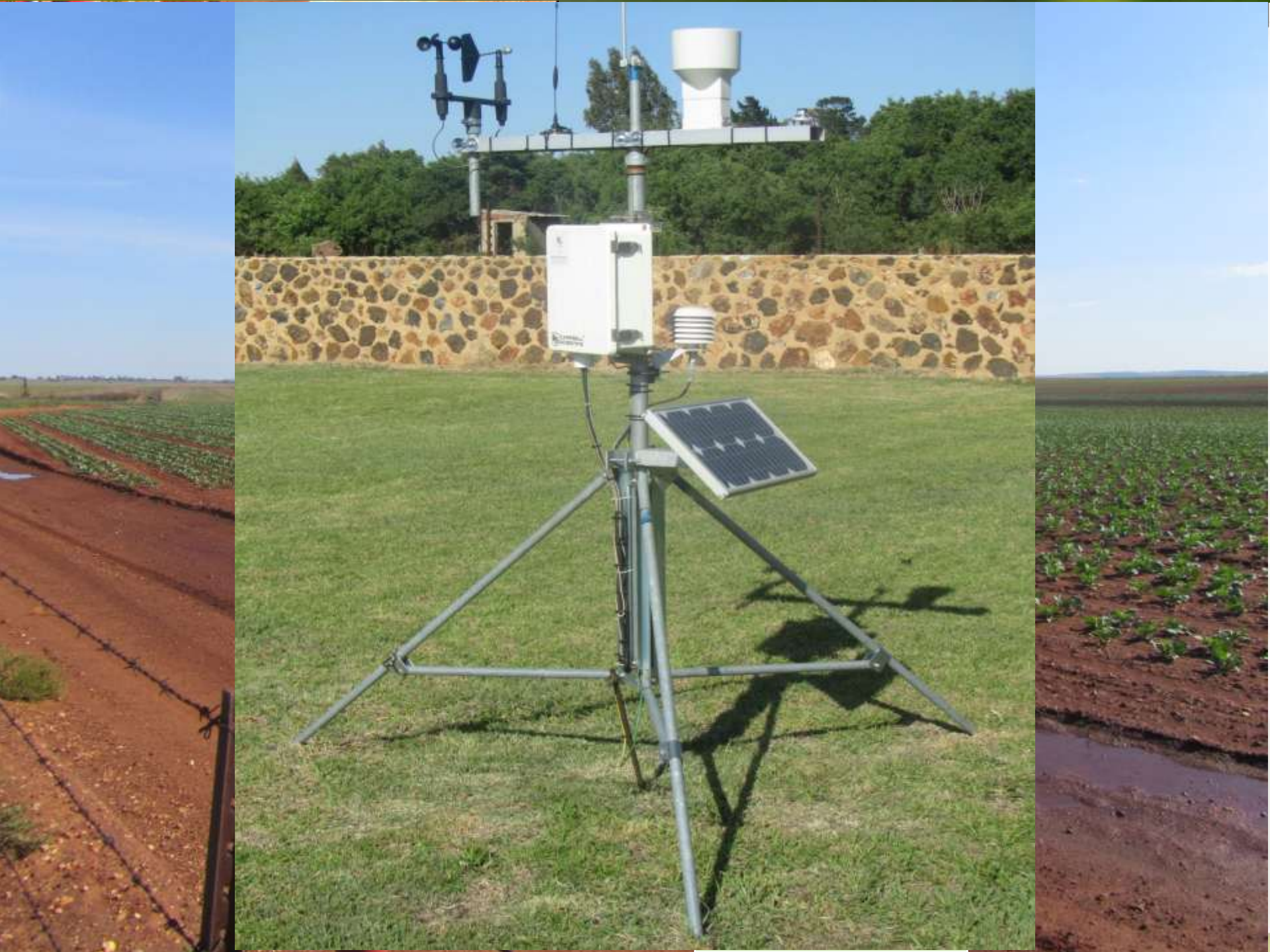
Sustainability

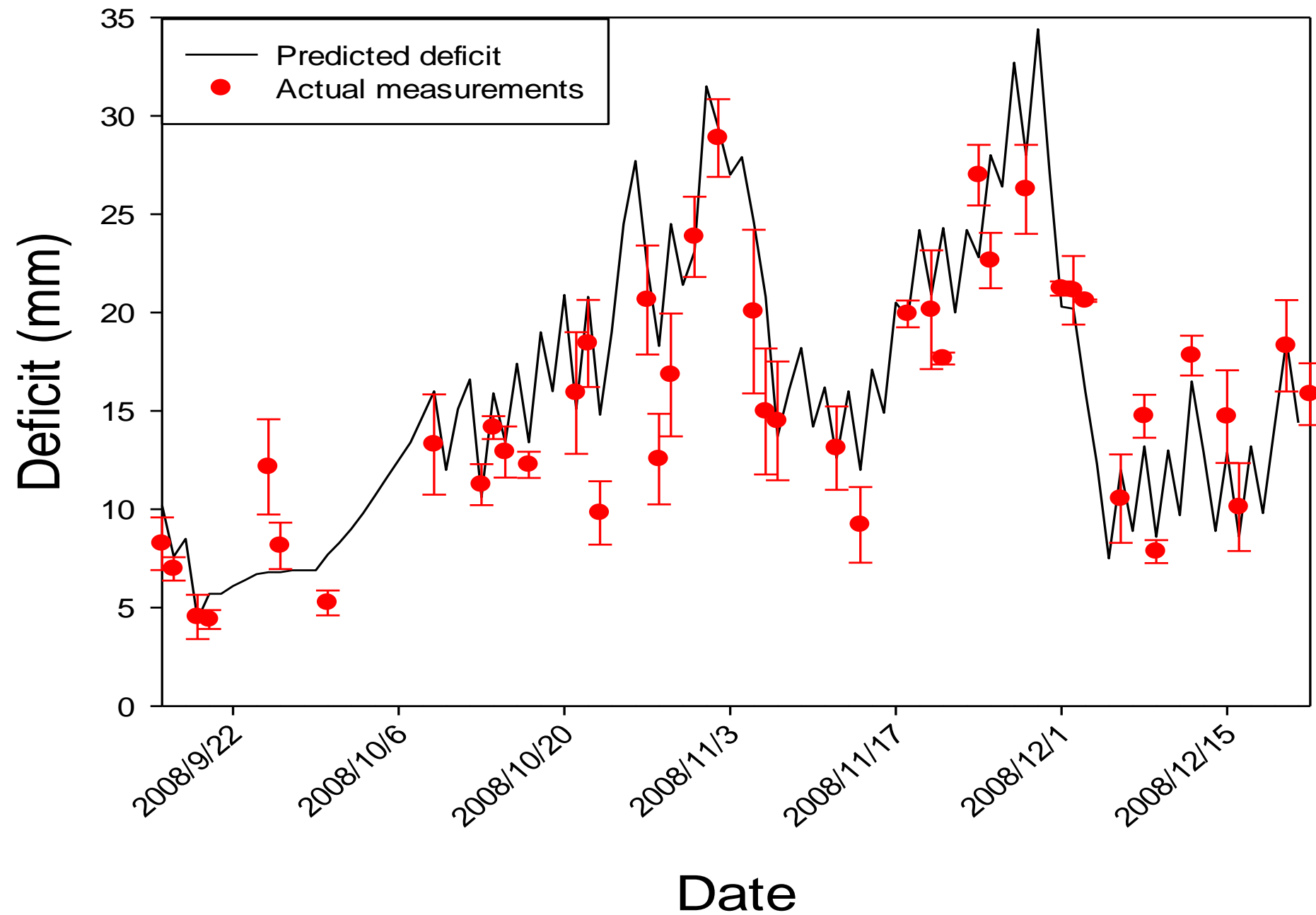
Shared goal: sustainability and economic development

Information

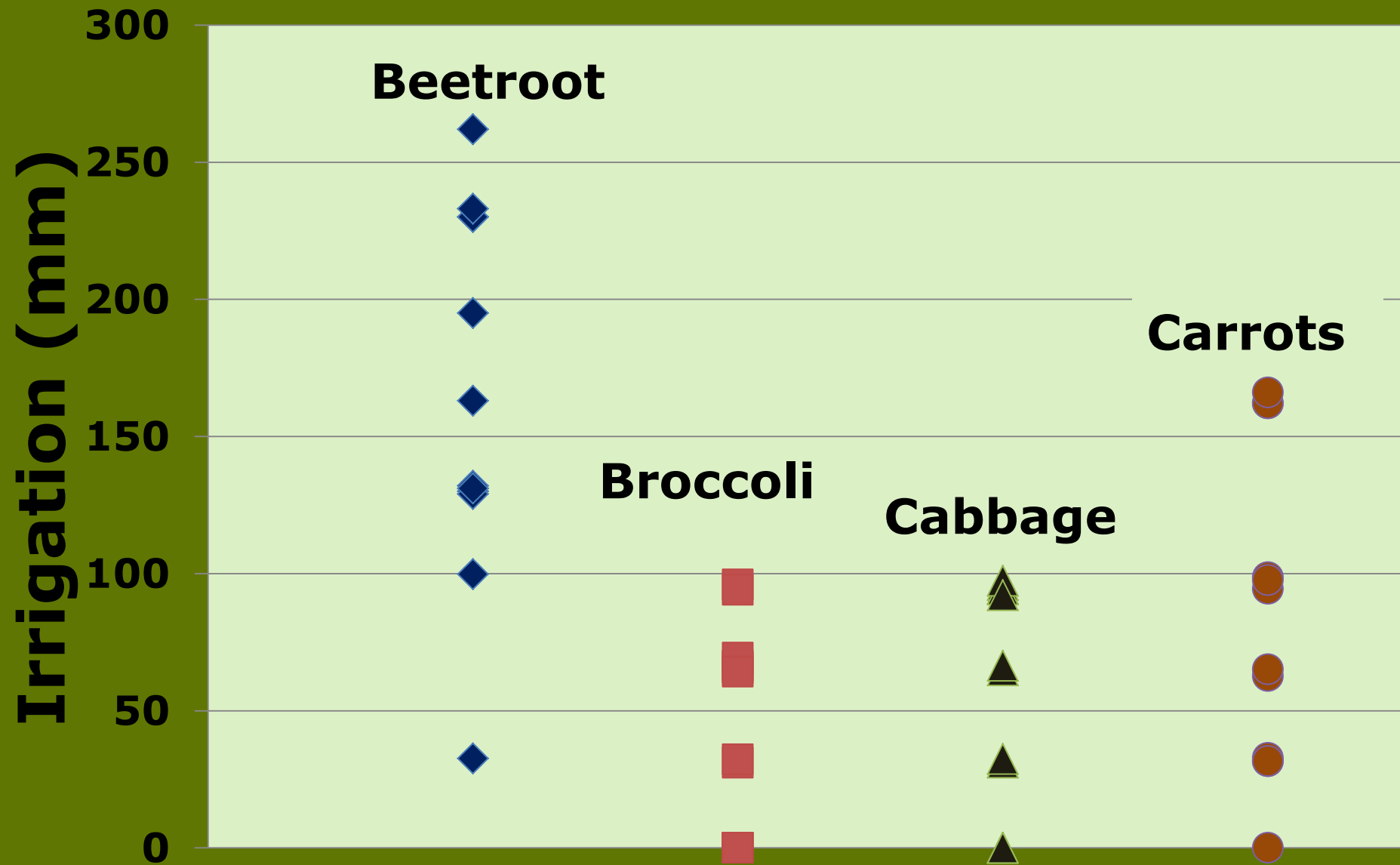


Conceptual understanding
• Groundwater system
• Geometry
• Flow

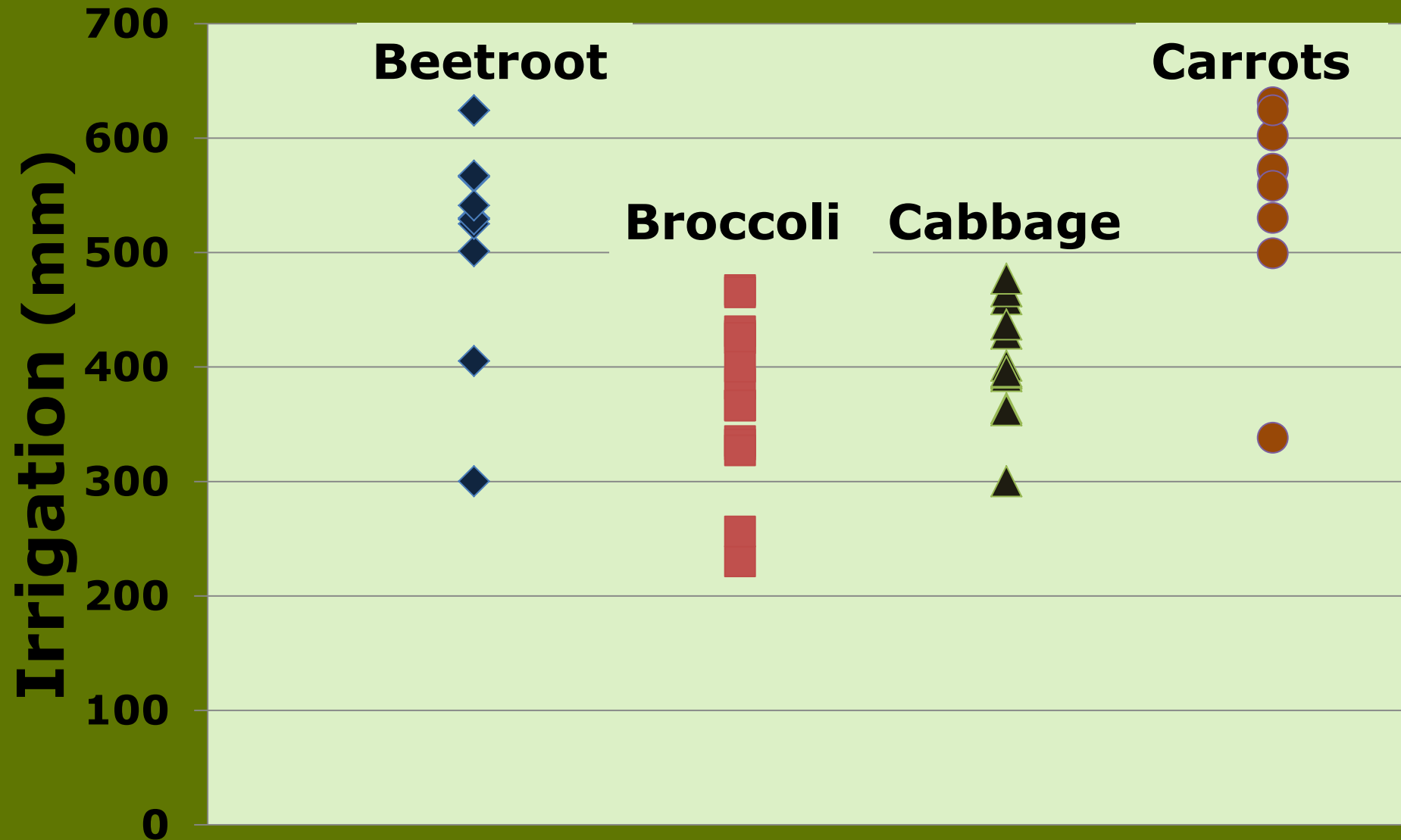




Summer - water use



Winter - water use





Fruit of collaboration

- **Validation of water use**
- **Rain gauges, flow meters, weather station and groundwater levels**
- **Exchange of information**
- **Characterise of the hydrogeology**
- **Hydrological model**



Fruit of collaboration

- **Scientific based irrigation scheduling methods**
- **More efficient pipe lines and irrigation equipment**
- **Winter production**
- **Establishing a WUA**



So what is the danger

- **Loss in social capital**
- **Loss of trust in the governance process**



What is next?

**Developing of an adaptive
water management plan**

We learn as we go along



THANK YOU



Hypothesis

Good governance depends on collaboration between water users and government

Jonker's concept of Governance

- **Conceptual framework for water governance:**
 - **Delegated (contracting out)**
 - **Cooperative (associations)**
 - **Bureaucratic (**
 - **Corporative governance (resides in each)**