

*III Workshop Internacional de Inovações Tecnológicas na Irrigação  
II Simpósio Brasileiro sobre Uso Múltiplo da Água*

*Fortaleza, Brasil, 8-11 June, 2010*

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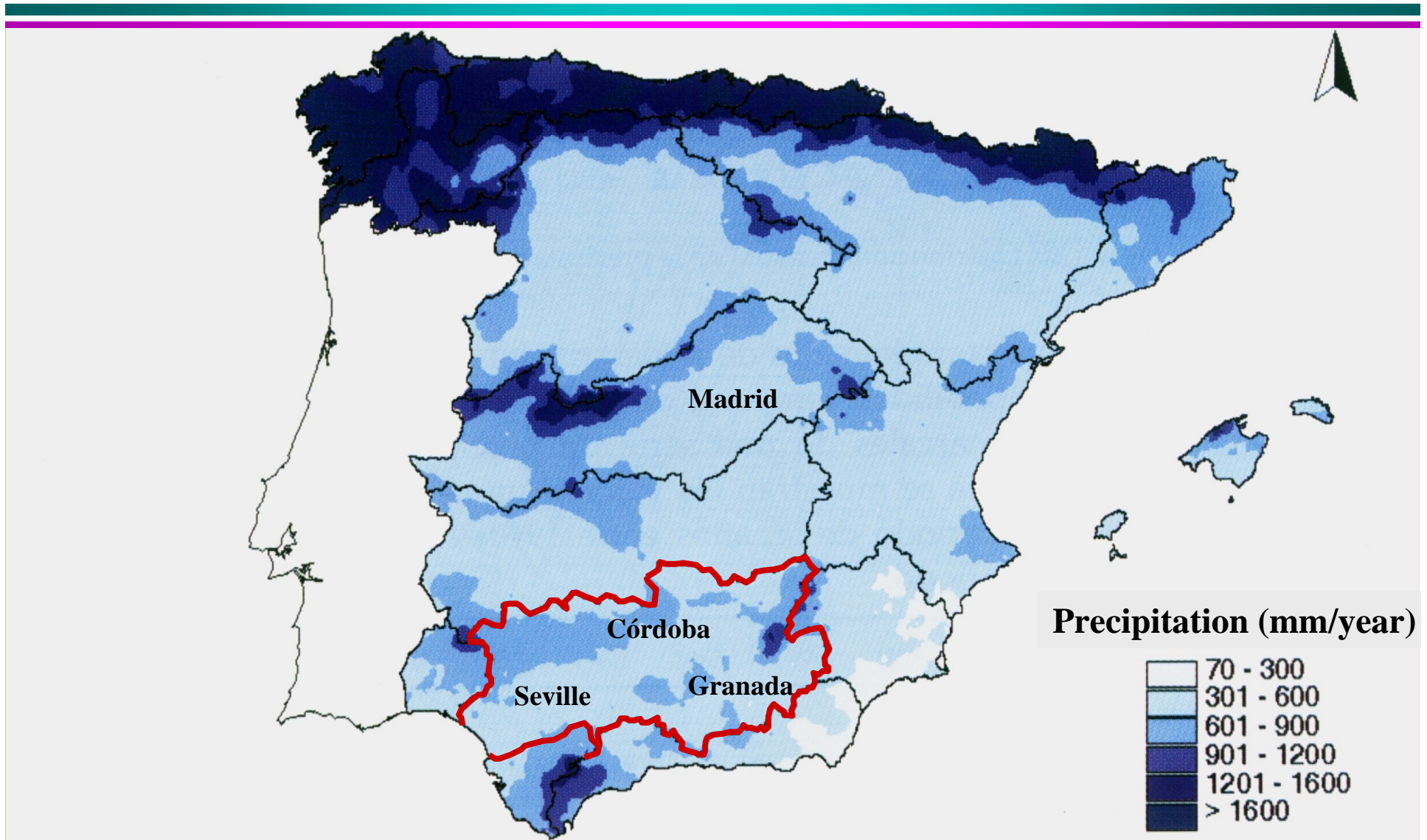
# **Irrigation management: farmer's behaviour and technology**

***Luciano Mateos***

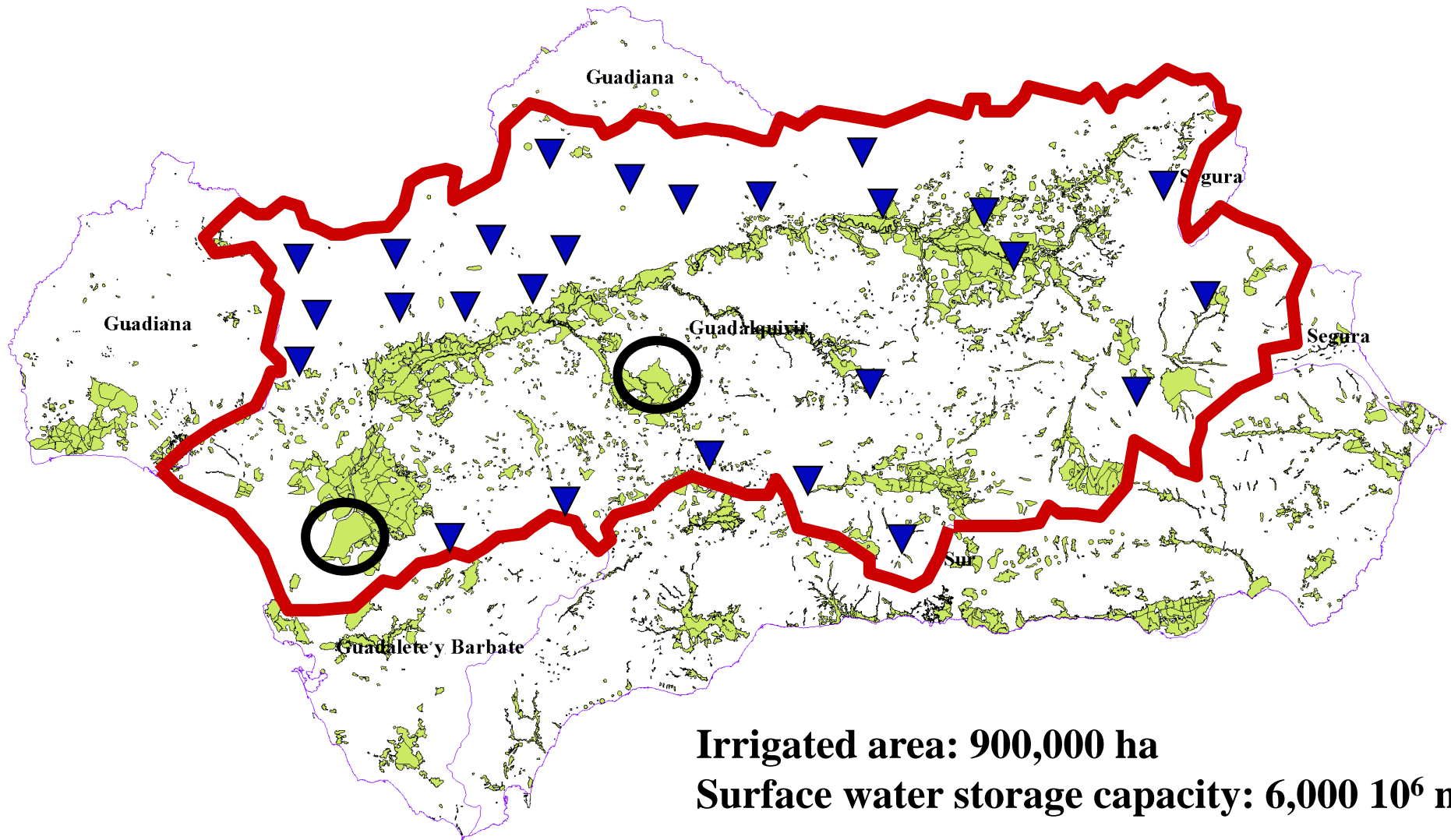
***Instituto de Agricultura Sostenible, CSIC  
Córdoba, Spain***



# Spain, Andalucía, Guadalquivir Basin



# Spain, Andalucía, Guadalquivir Basin



# Presentation outline

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- 1. Irrigation water use variability**
- 2. Irrigation economics and uncertainty**
- 3. Technology at irrigation district management level**
- 4. More simple, more complex: study case in Africa**

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4. More simple, more complex: study case in Africa



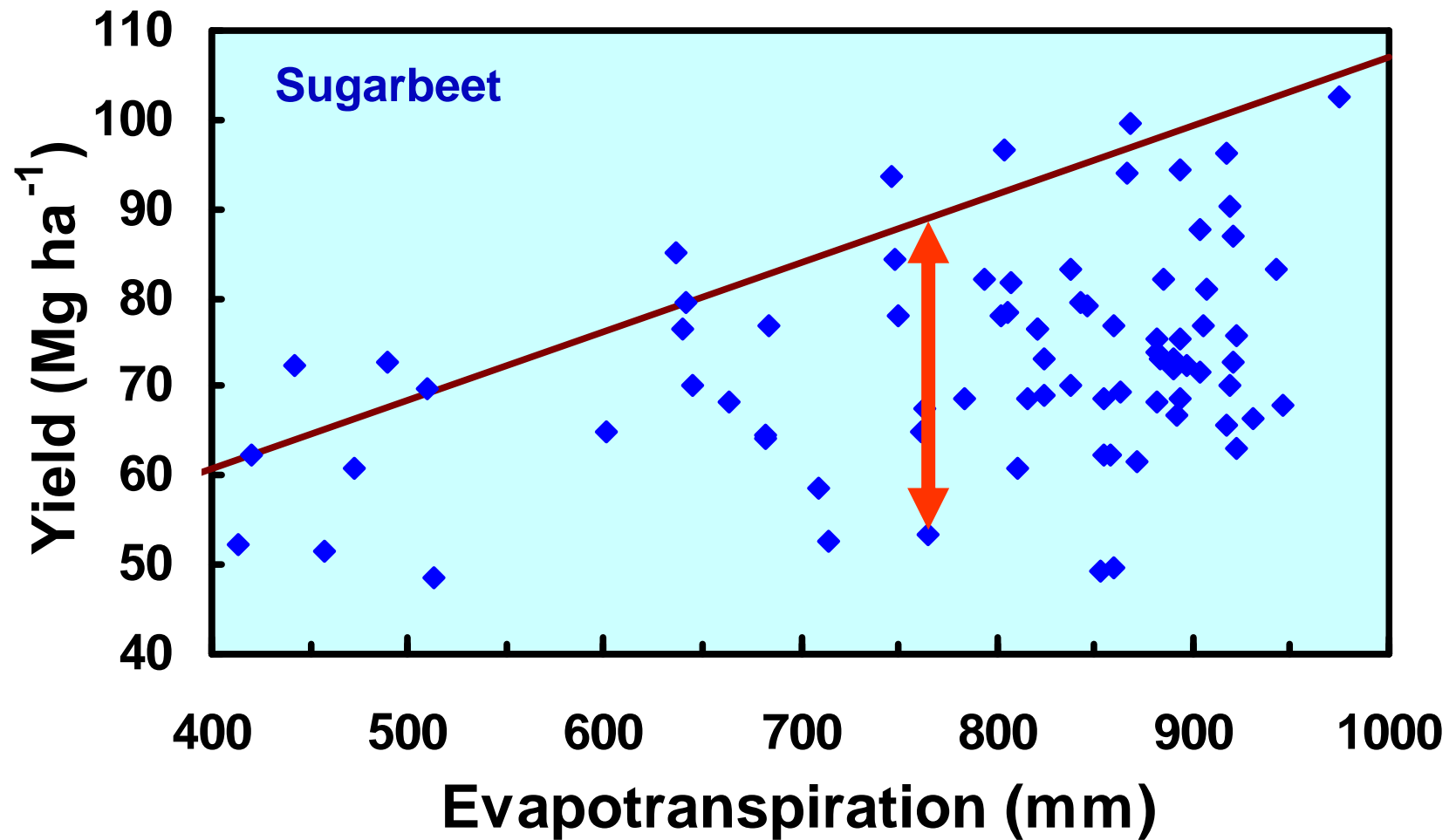
# 1. Irrigation water use variability



**B-XII**  
**Irrigation Scheme**

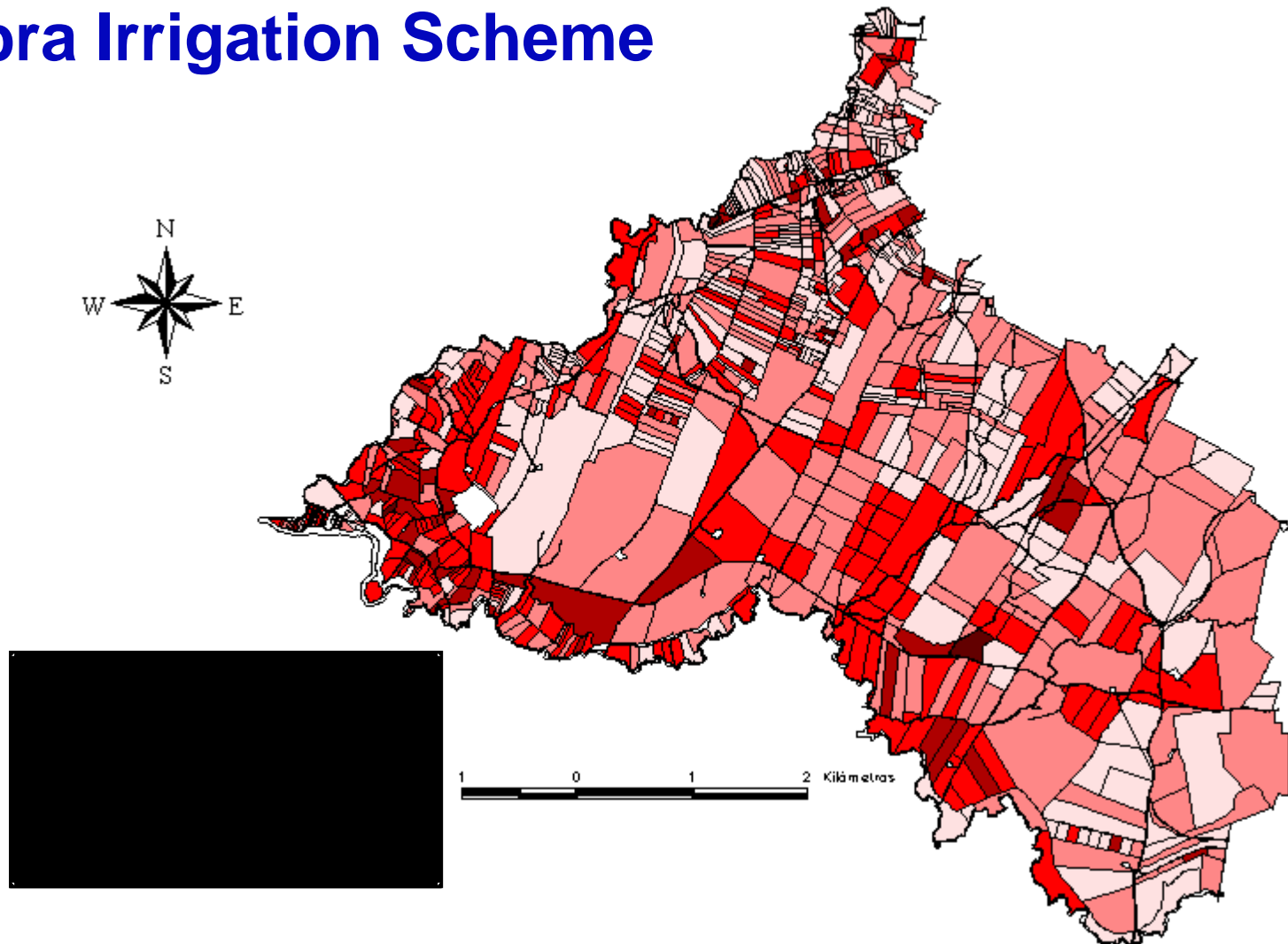
- Cotton
- Sugarbeet
- Tomato

# 1. Irrigation water use variability



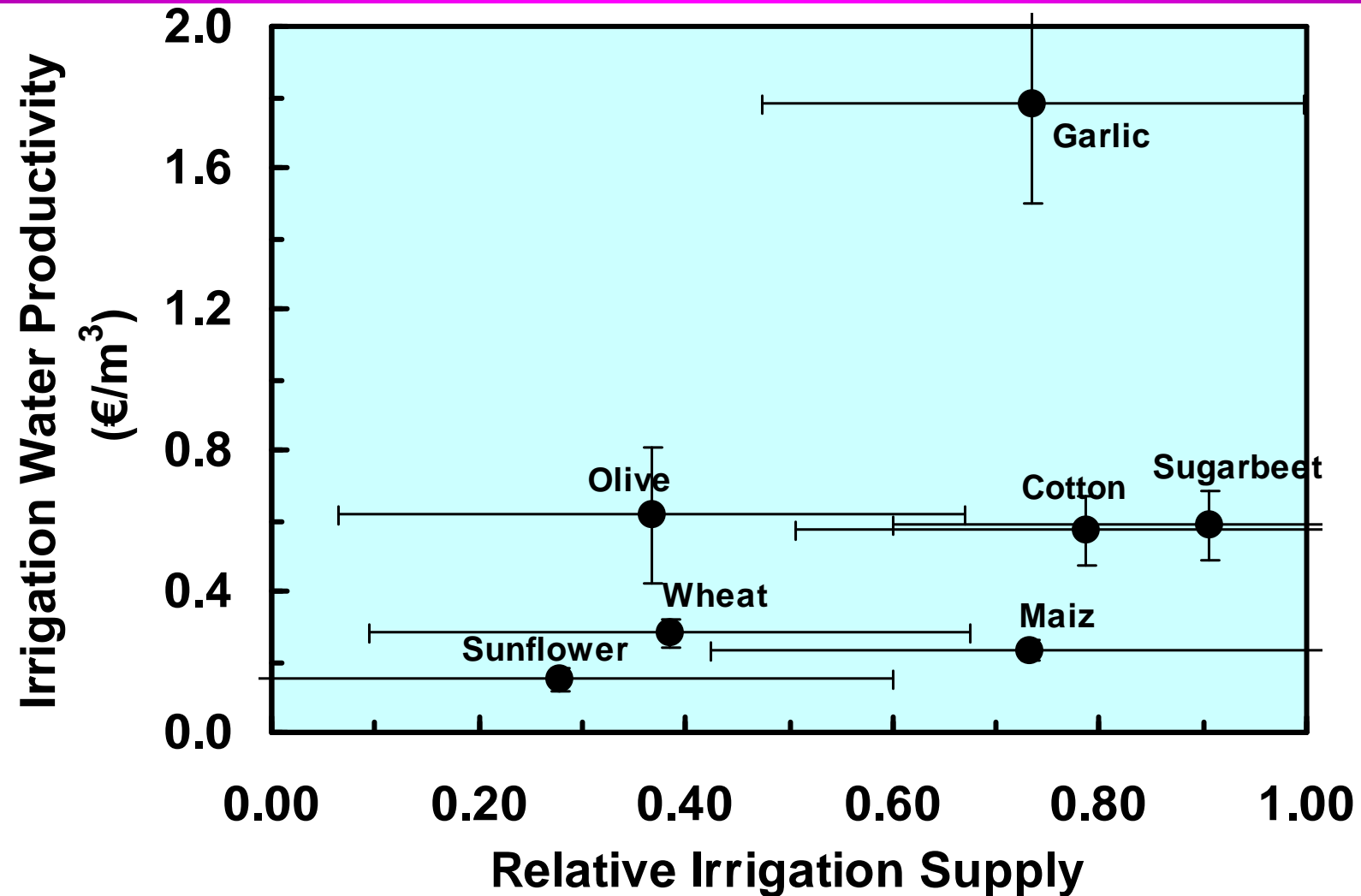
# 1. Irrigation water use variability

## Genil-Cabra Irrigation Scheme





# 1. Irrigation water use variability



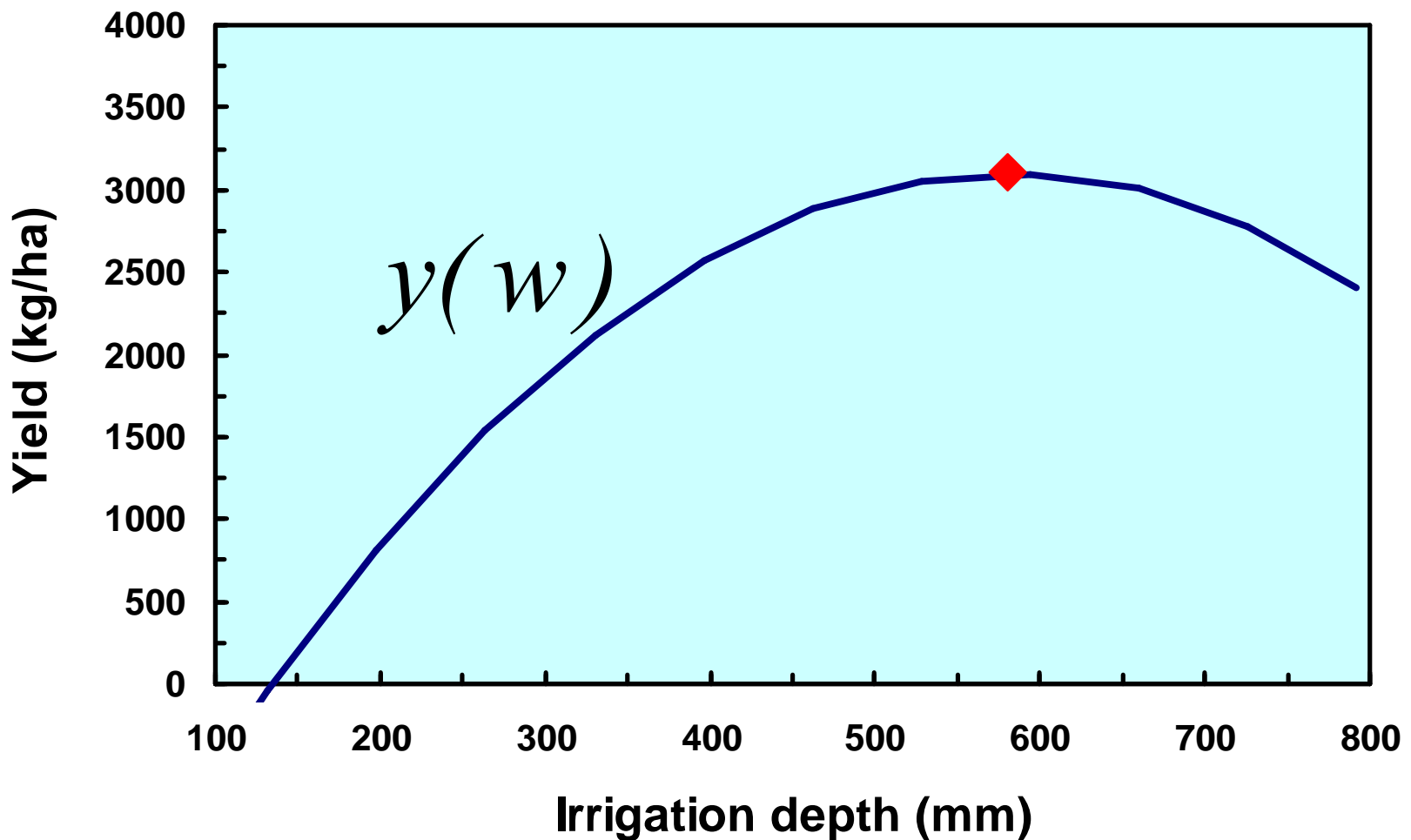
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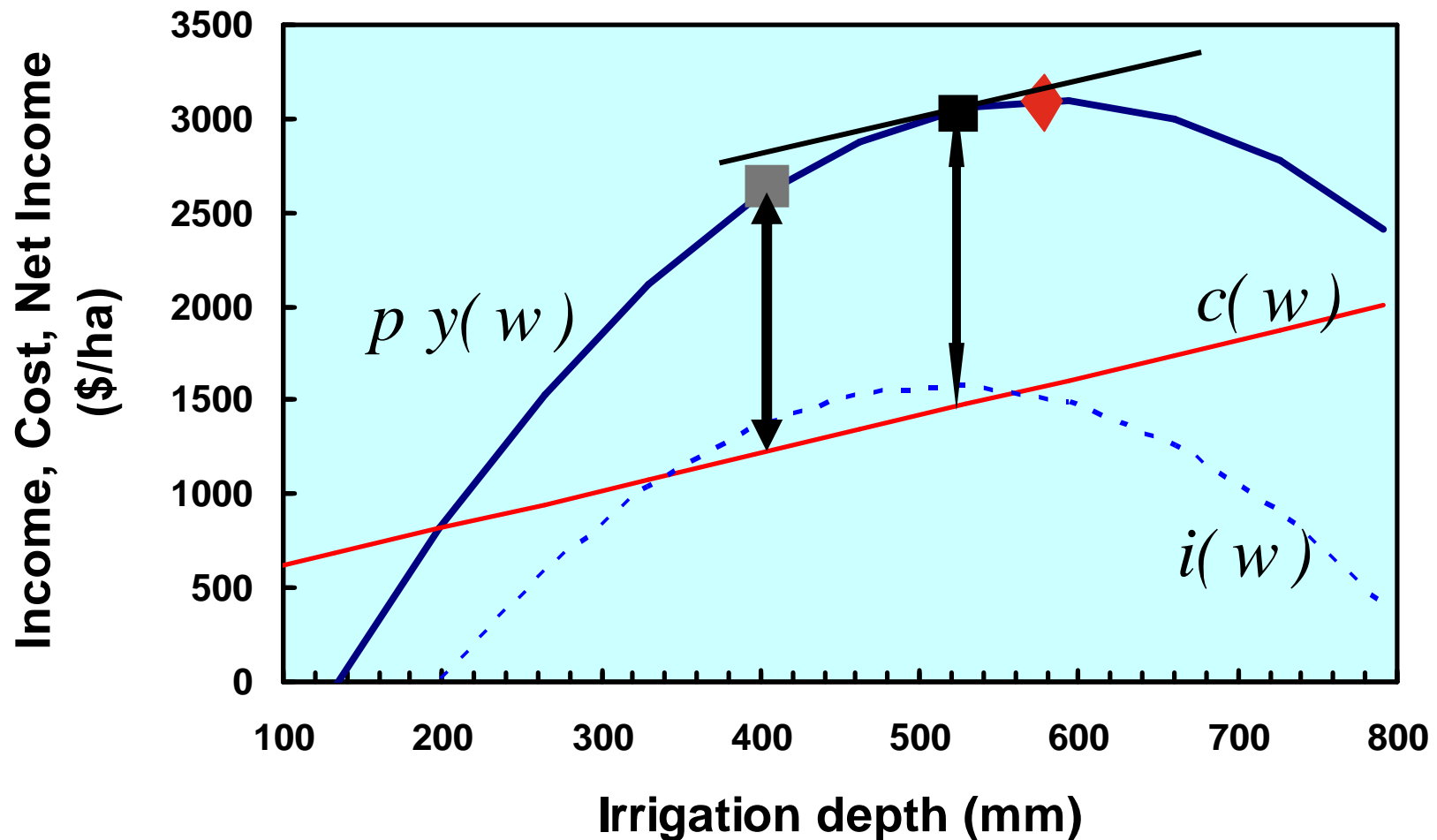
## 2. Irrigation economics and uncertainty (concepts)

### Yield function



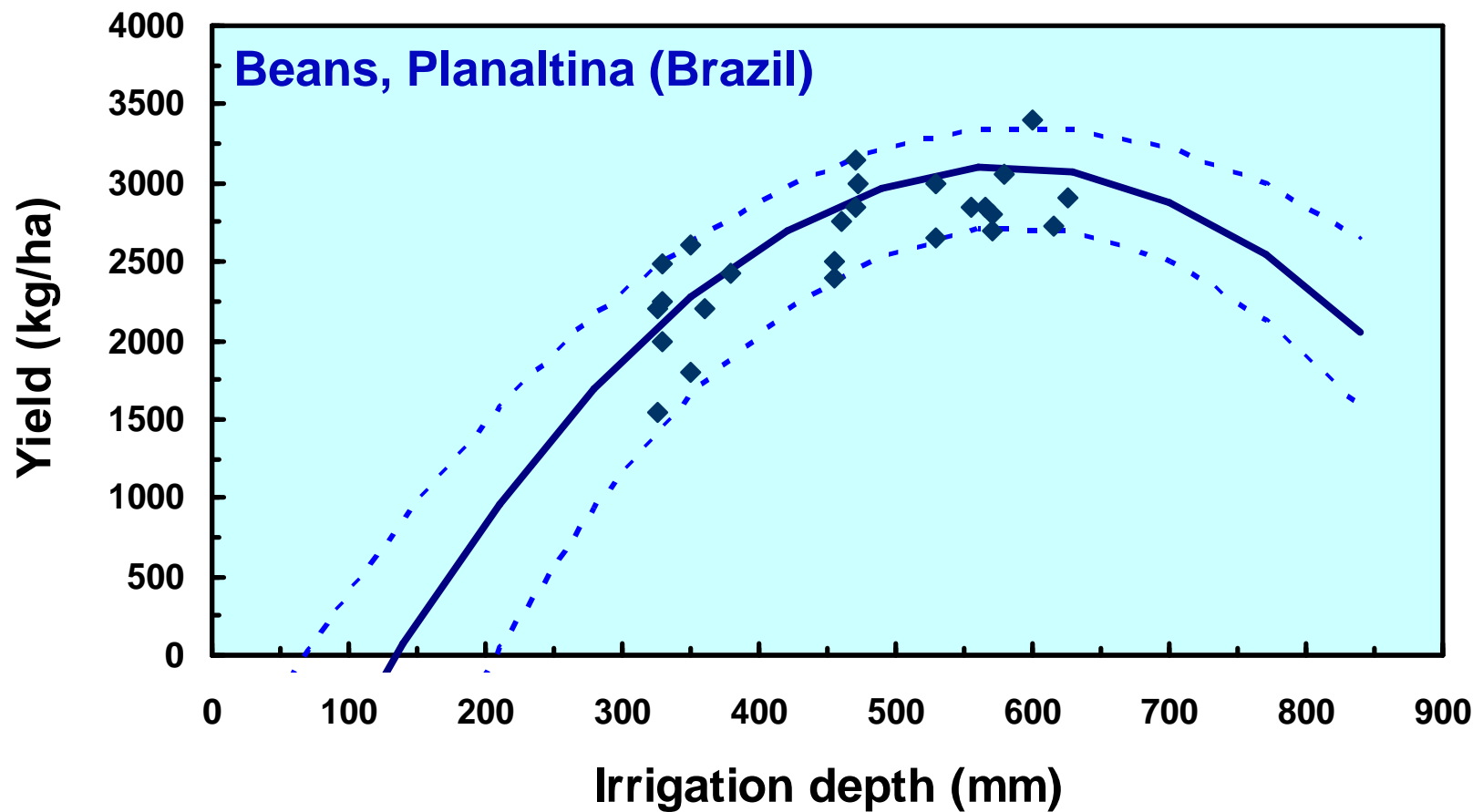
## 2. Irrigation economics and uncertainty (concepts)

1) land is limiting      2) water is limiting



## 2. Irrigation economics and uncertainty (concepts)

### Uncertainty



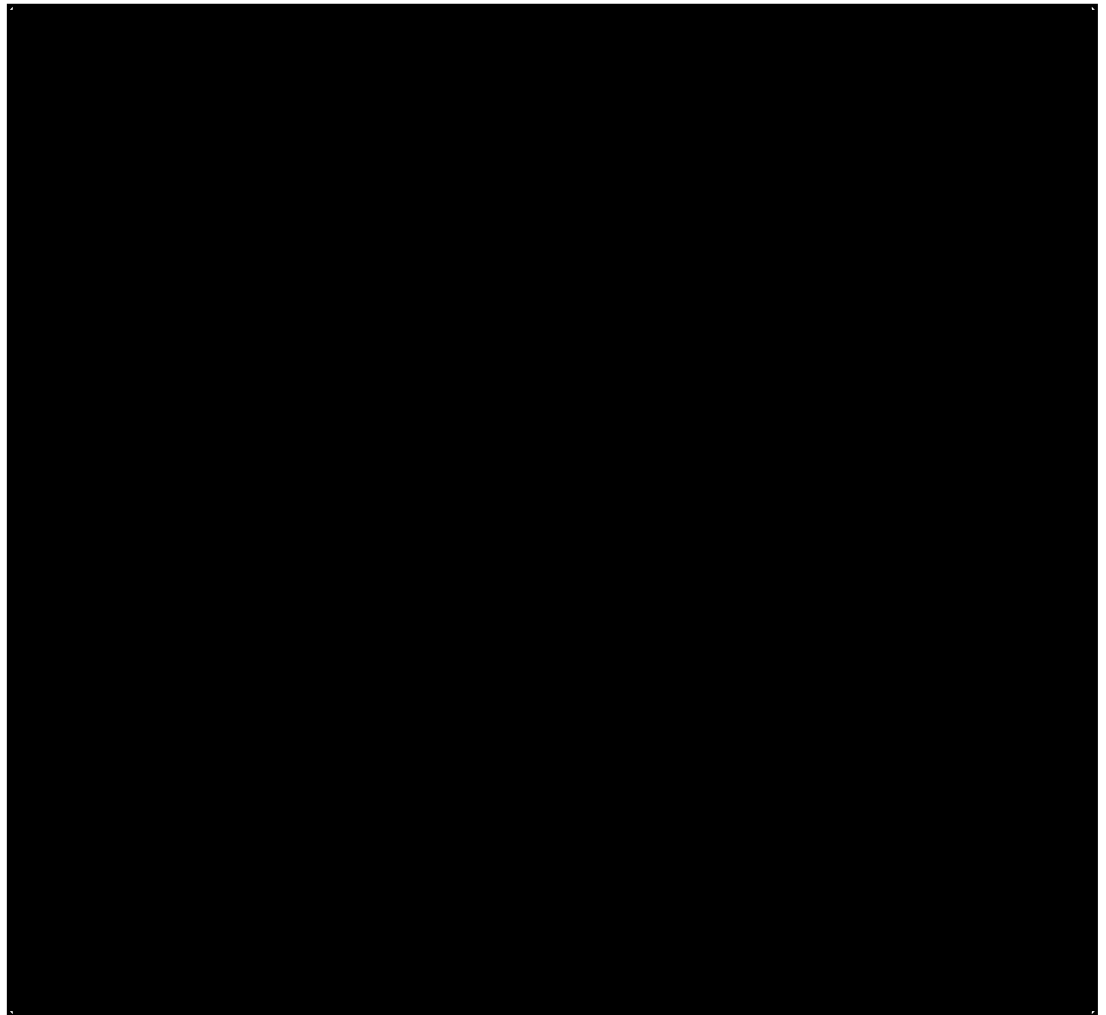
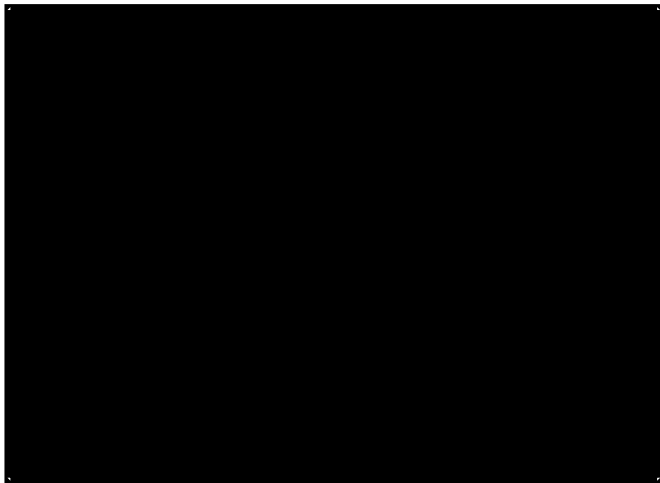
*Figuerêdo et. al. (1998)*



## 2. Irrigation economics and uncertainty (concepts)

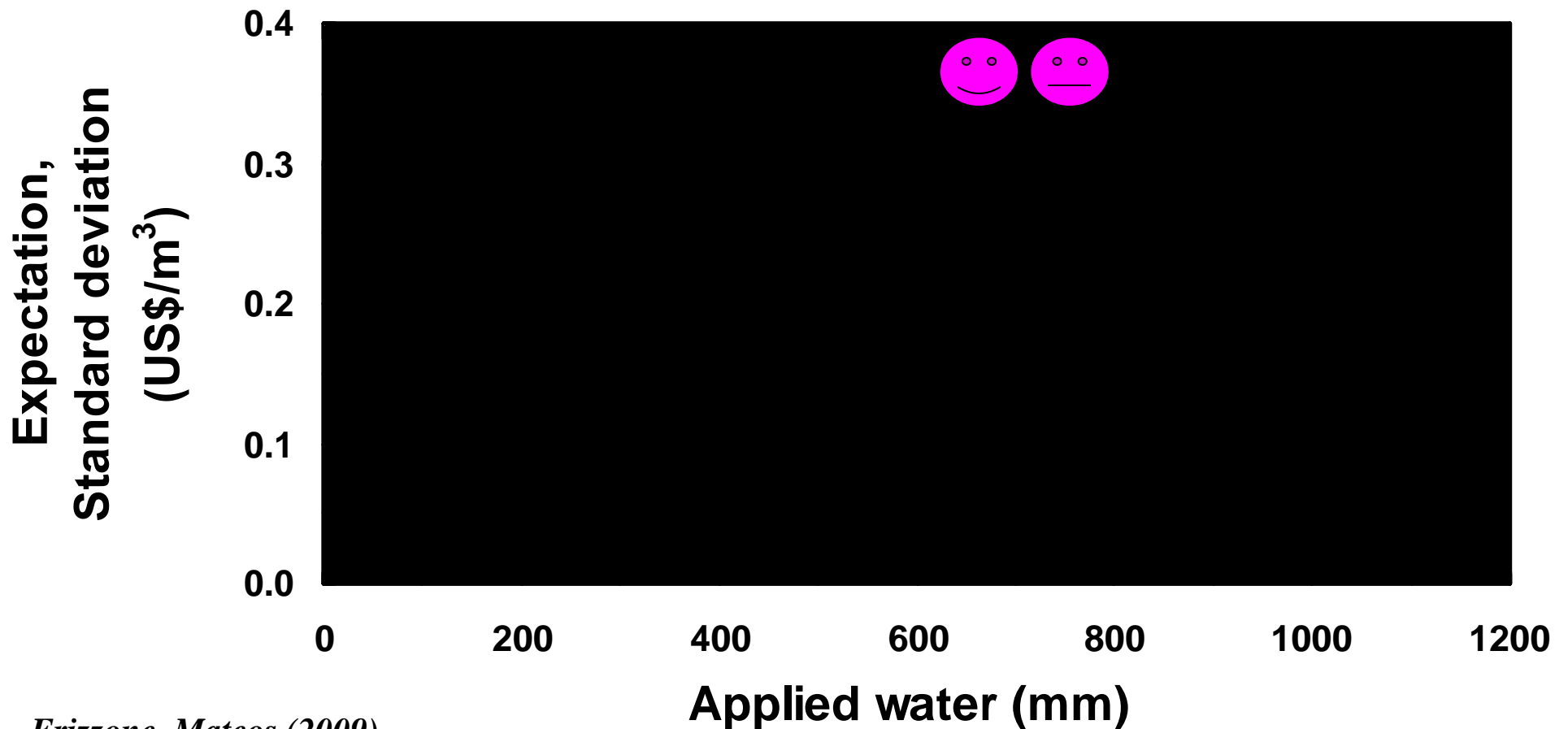
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### Uncertainty



## 2. Irrigation economics and uncertainty (concepts)

### Net income, uncertainty



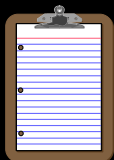
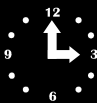
*Frizzone, Mateos (2009)*

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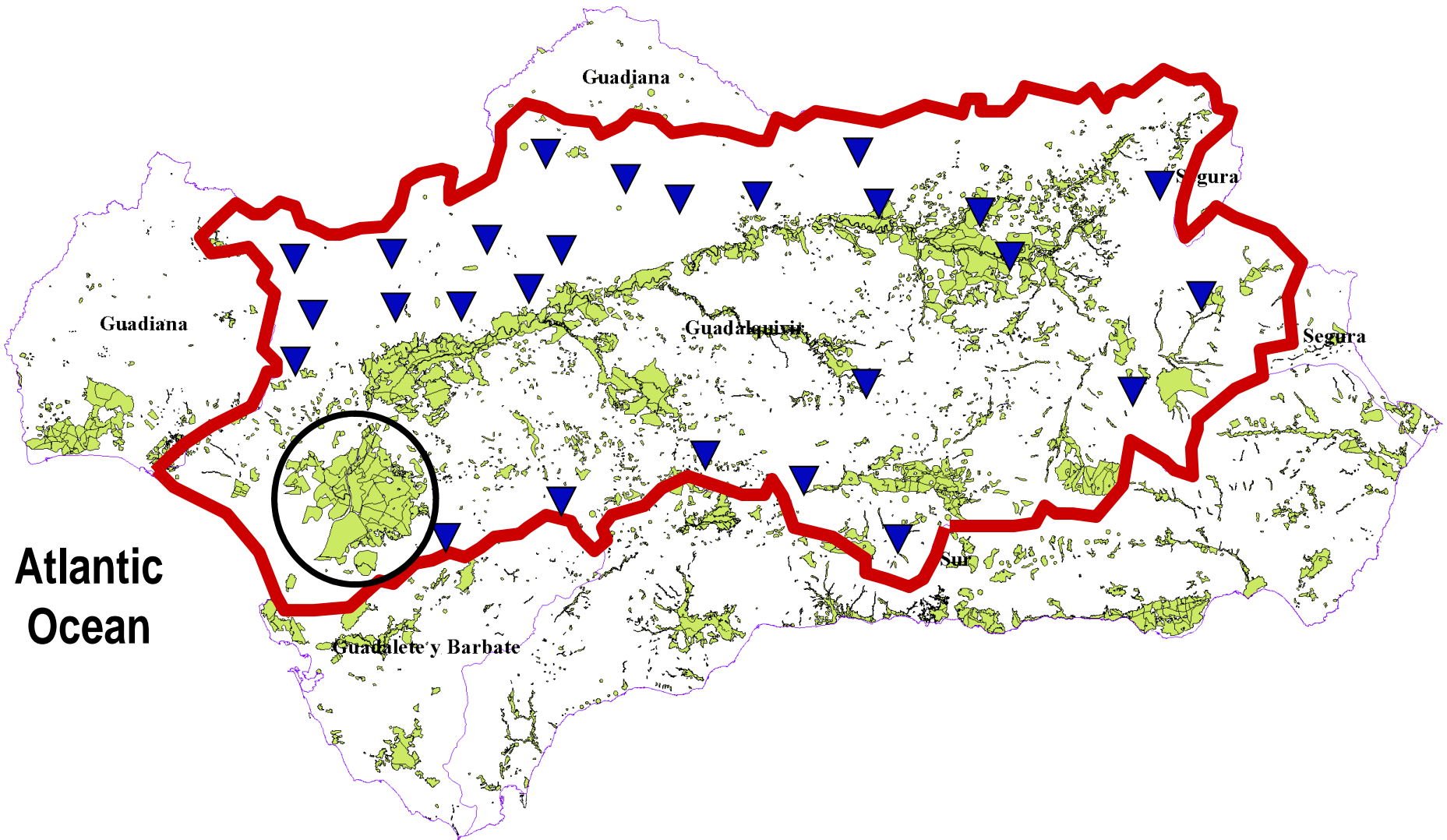
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1. Irrigation water use variability
2. Irrigation economics and uncertainty
- 3. Technology at irrigation district management level**
  - ✓ Information and decision support systems
  - ✓ Distribution system operation
  - ✓ Irrigation district hydrology
4. More simple, more complex: study case in Africa

### 3. Technology and knowledge at irrigation district management level: DSS

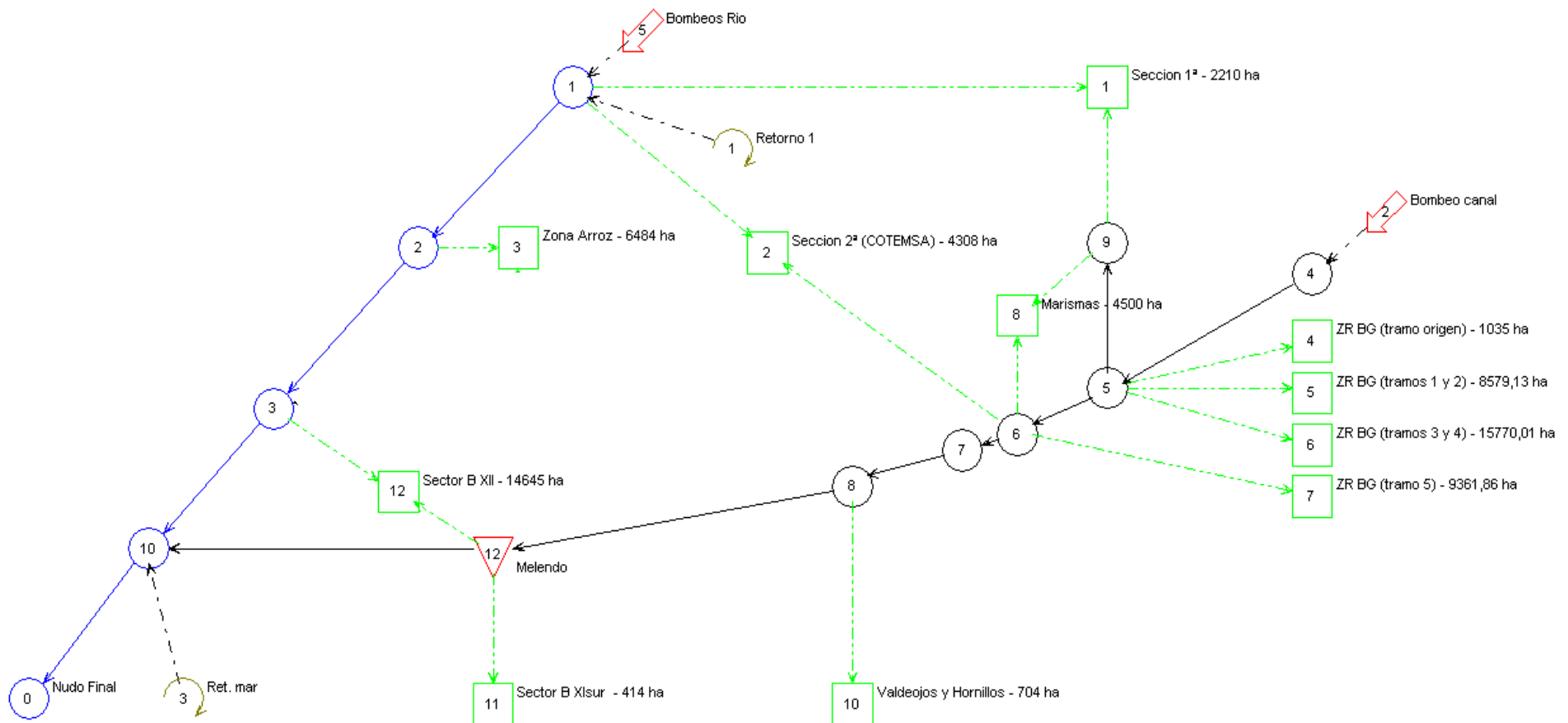


### 3. Technology and knowledge at irrigation district management level: hydrology

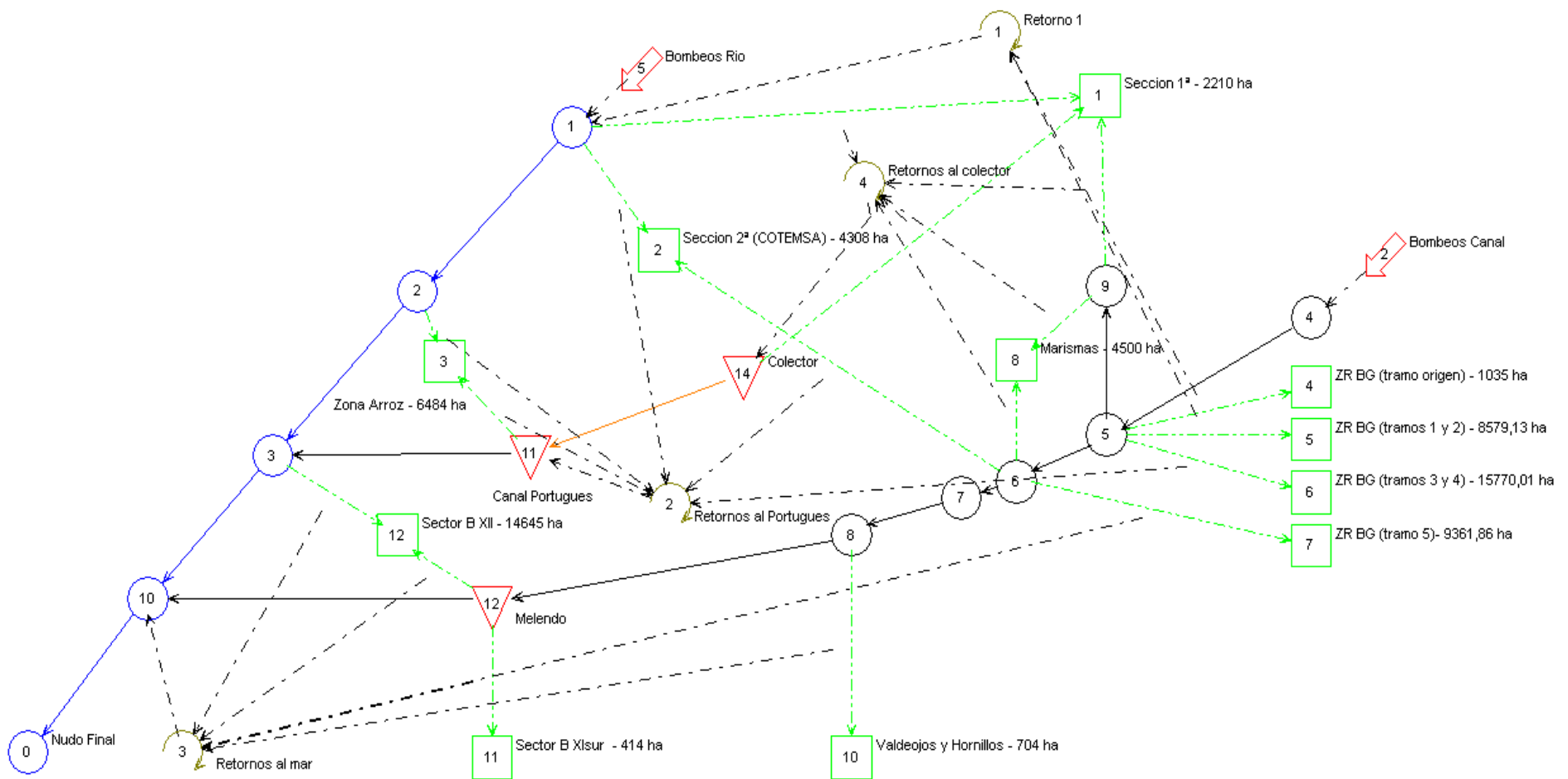




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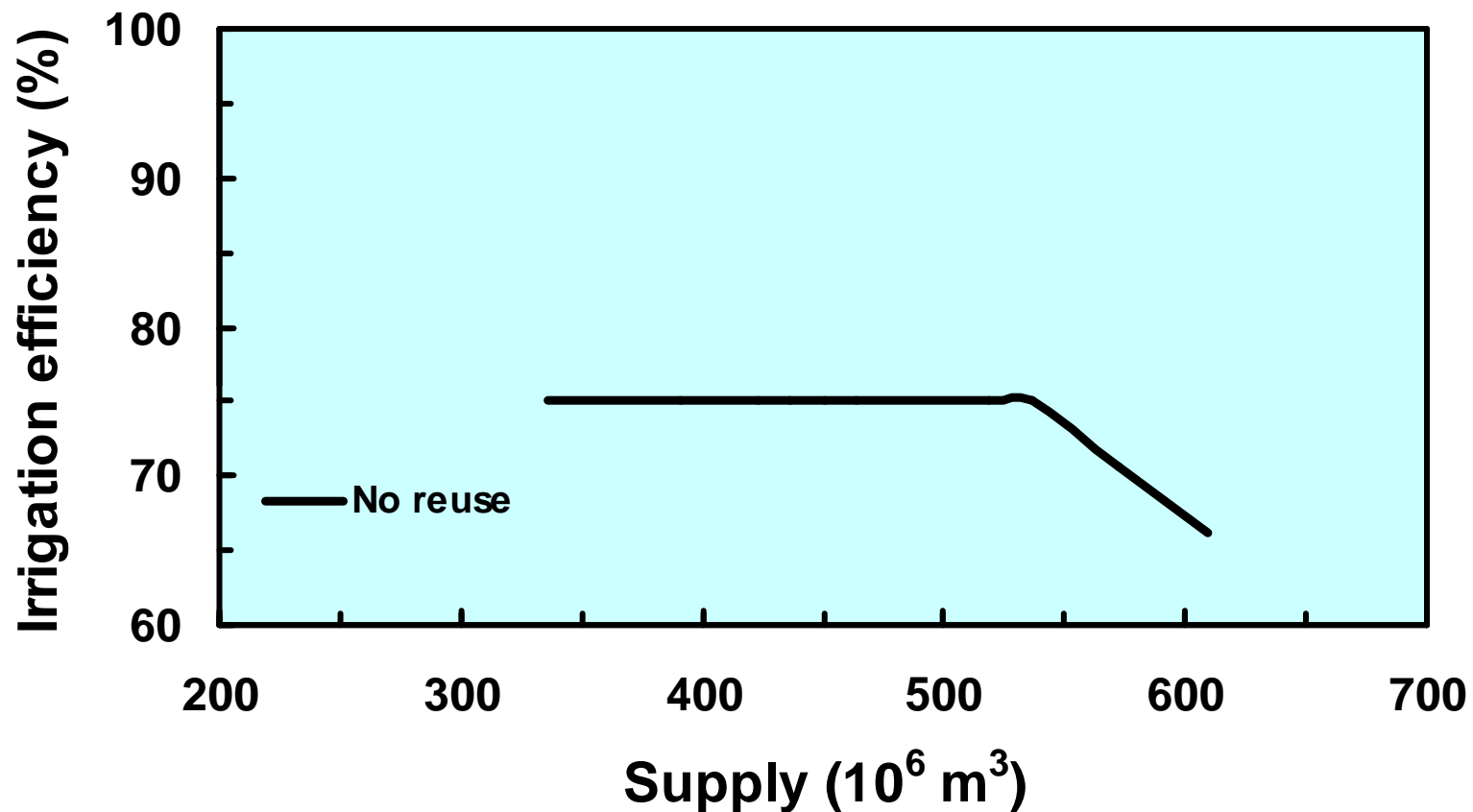


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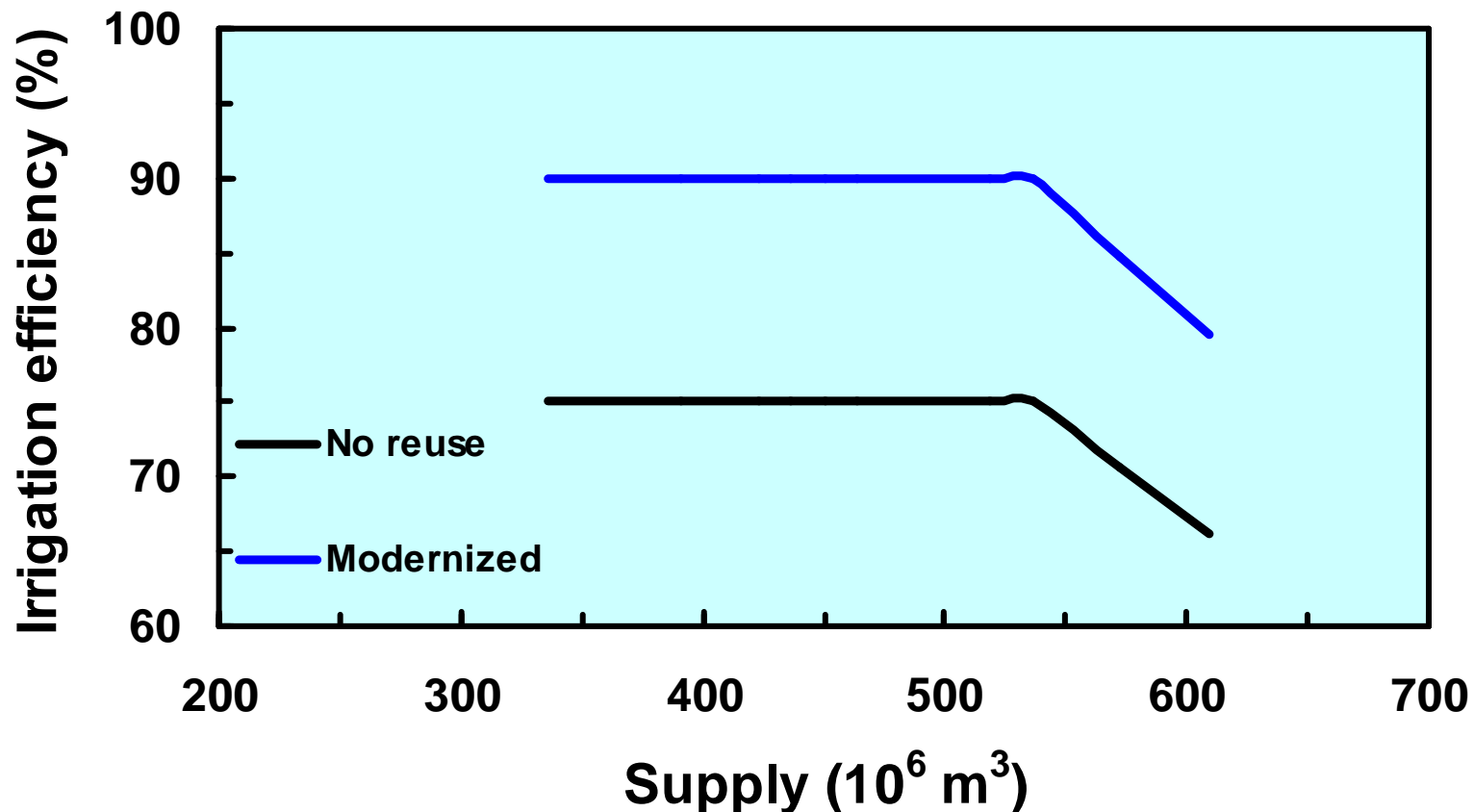
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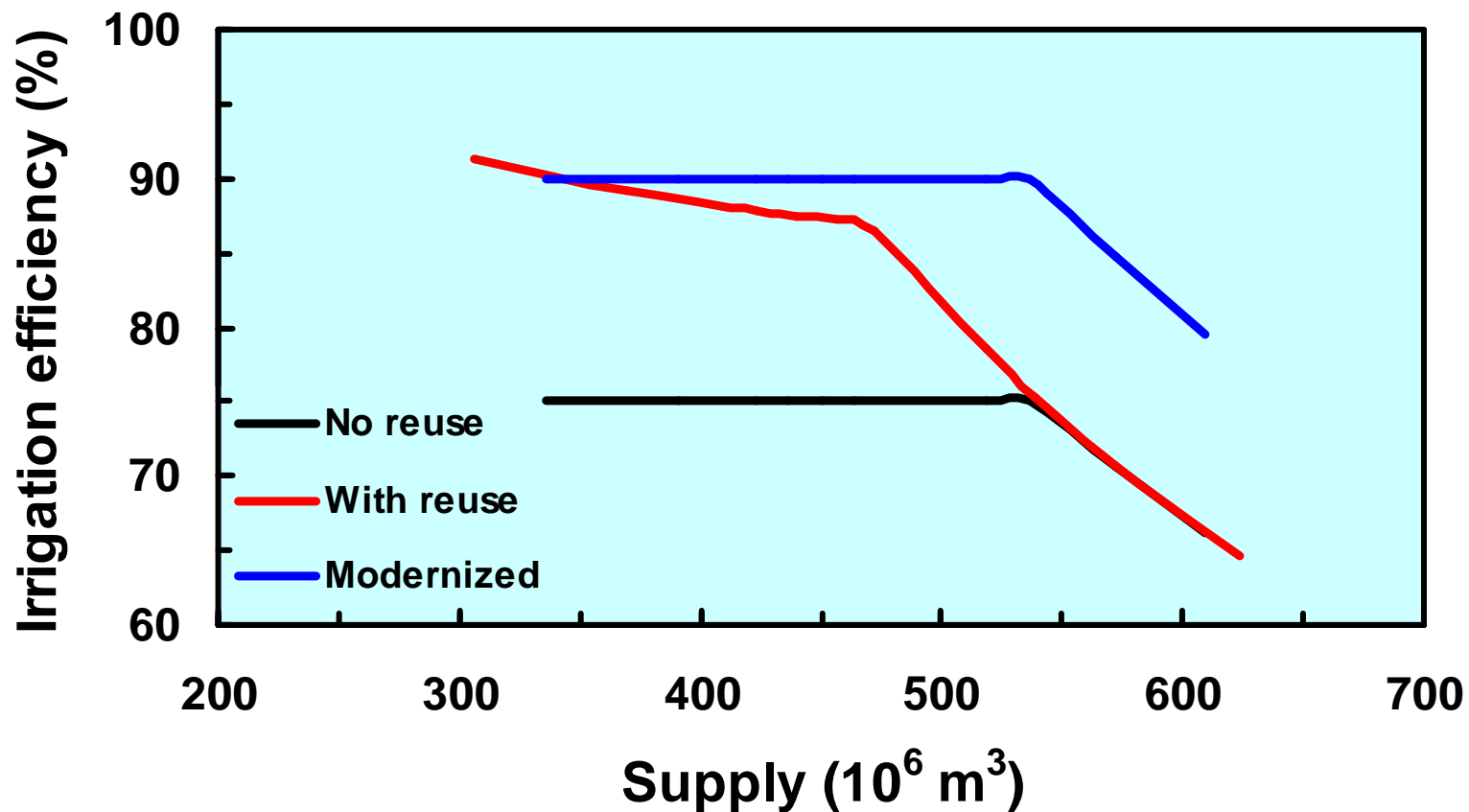


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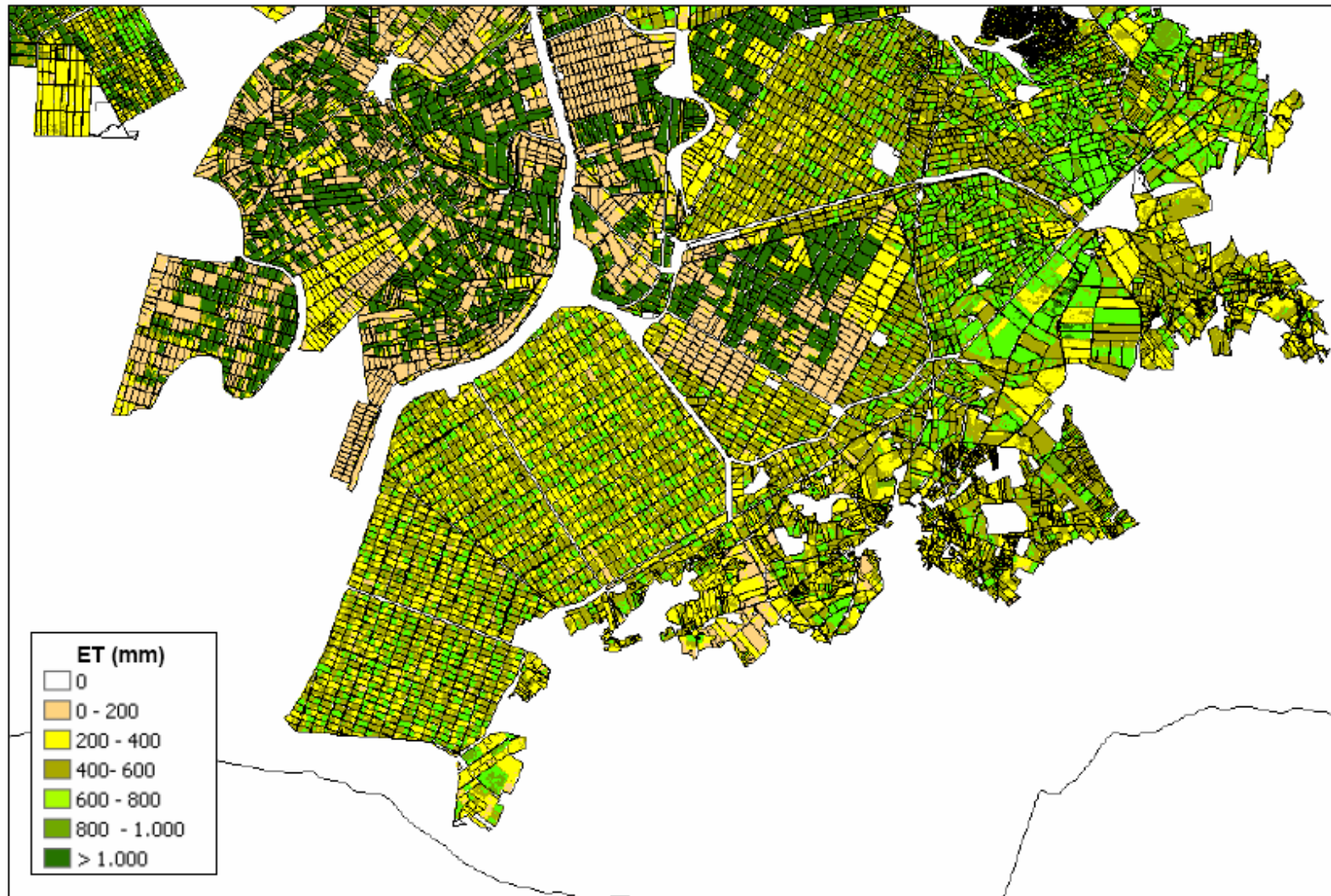


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### 3. Technology and knowledge at irrigation district management level: hydrology

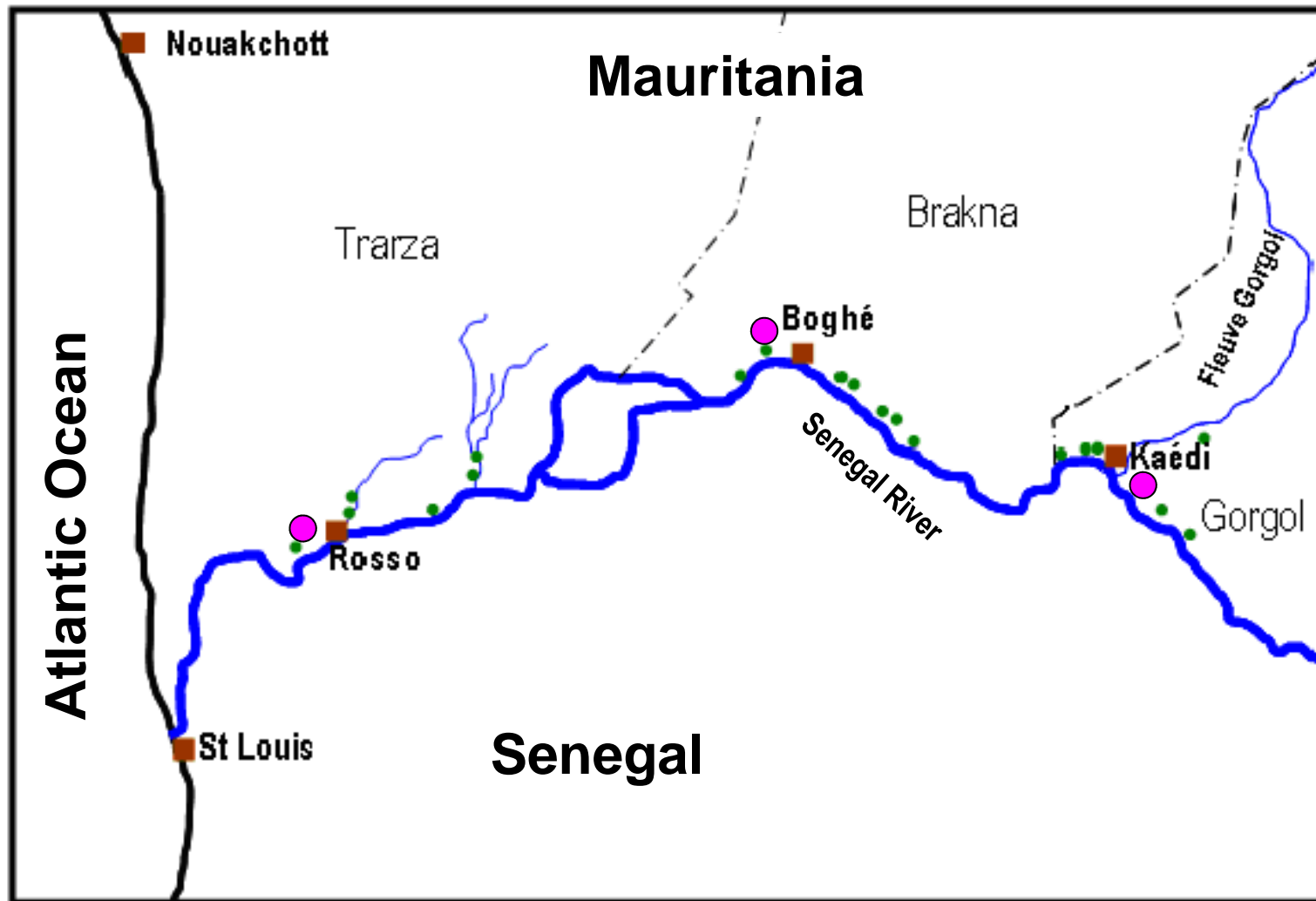


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## 4. More simple, more complex: study case in Africa



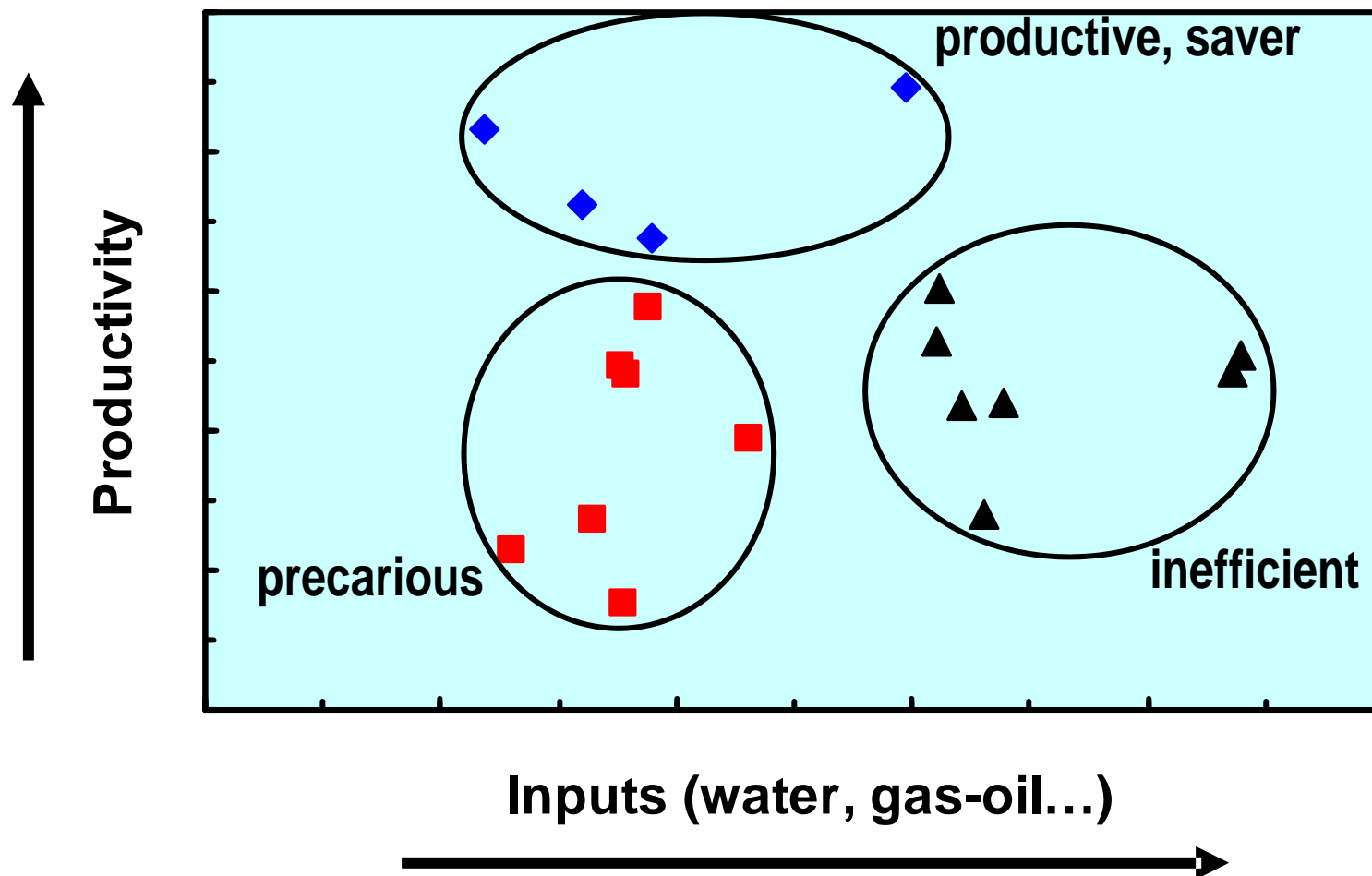


## 4. More simple, more complex: study case in Africa



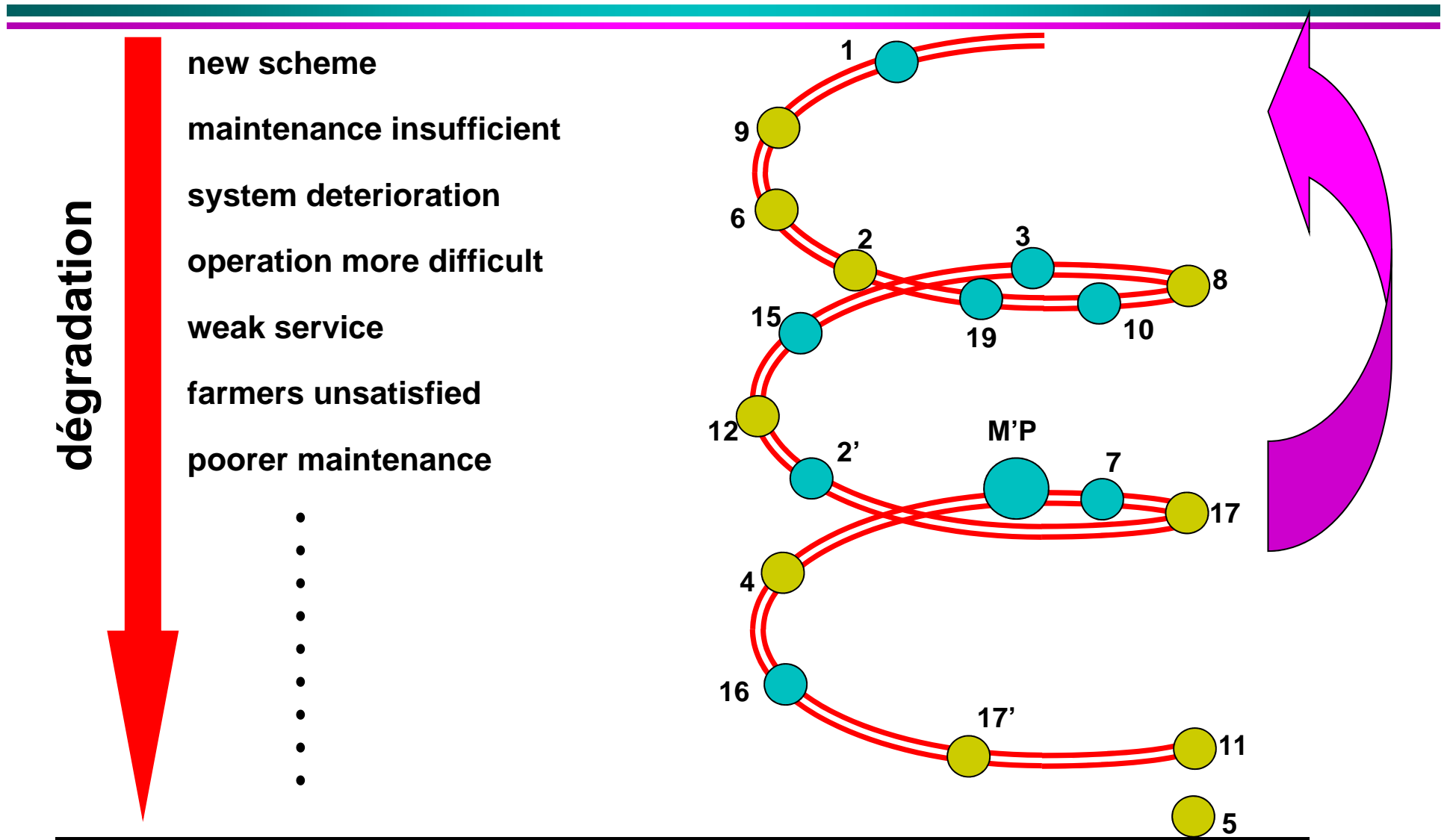
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### Benchmarking (cluster analysis)





## 4. More simple, more complex: study case in Africa



*Obrigado!*

