

# KONGRES 2009 CONGRESS 2009

Back to Basics:  
Efficient irrigation design for a changing environment



# HUISREëLS HOUSEKEEPING



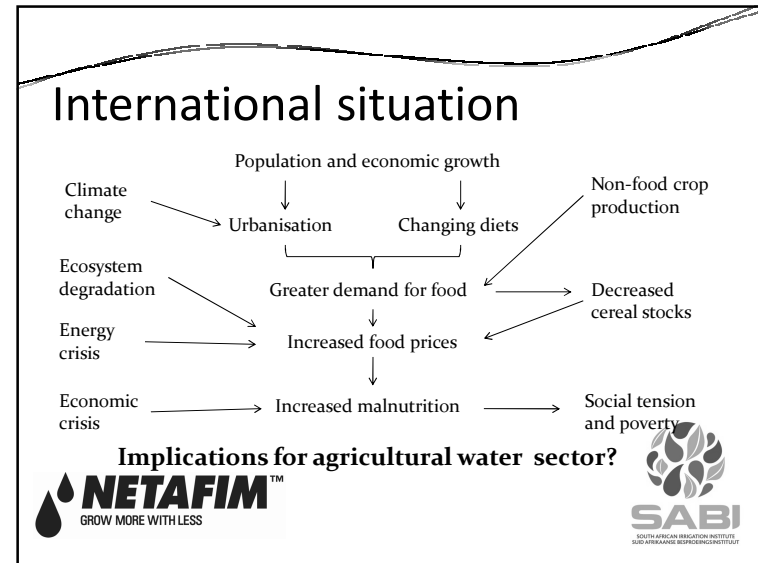
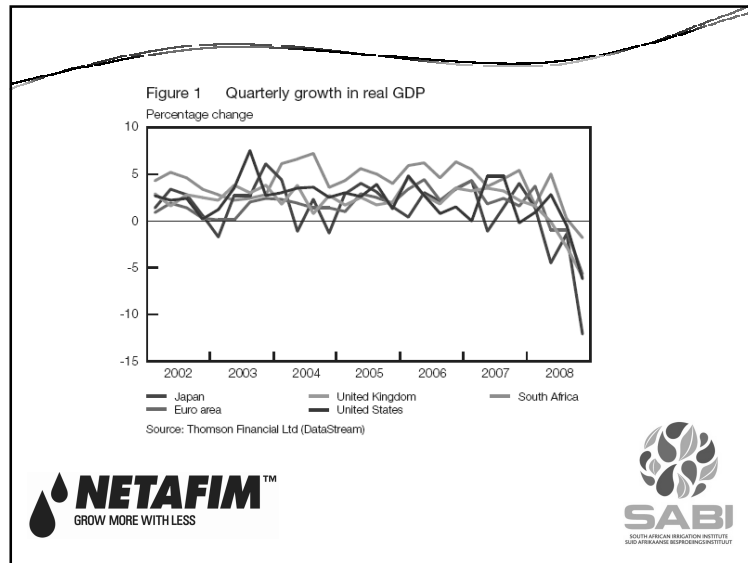
# VERWELKOMING WELCOME



## Congress Introduction



- International situation
- Local situation
- SABI's role in industry
- Congress 2009 program







## Implications

- Increasing demand = increasing competition (for water - 47% of world population will live under water stress by 2030)
  - Increased production required
  - Large-scale and small-scale sectors to be included
  - Agricultural water should be secured, protected and the agricultural sector nurtured

## Increased production

- Production under irrigation up to 3x higher
- Potential mechanisms for increased production (FAO):
  - Yield increase (69%)
  - Cropping intensity (10%)
  - Arable land expansion (21%)
- Agricultural land have to increase to 1.7b ha in 2050 (from 1.39b ha in 2007), with the greatest potential in Sub-Saharan Africa and Latin-America

## Increased production (cont'd)

- 45% of cultivated land has no formal water management solution
- Promote simple technologies amongst a wide group – get the message out, not complicated technologies
- Increase accountability – water management split between government departments?
- Develop local markets – better price at the farm gate, increased investment in farm infrastructure?
  - Farmers' concern: increased production = lower price!



## Increased production (cont'd)

- Trends in developing countries:
  - Increased farm size
  - Produce high value (niche) crops
  - Part-time farming
- Unlock dryland potential, for biofuel production and poverty reduction – also improved understanding of supplemental irrigation



## Large vs small-scale

- Increased farm sizes make food more affordable
- Small areas can be as productive as large areas but water supply is more expensive and management problematic
- Migration of especially men to urban centers – interventions should target women
- Human resource development is key – realistic programmes and strategies need to be



## Agricultural water security

- Protection of agricultural water rights is crucial – water is being “siphoned” away through:
  - Administration (transferred by government)
  - Stealth (aquifers depleted without anybody noticing)
  - Economic mechanisms (sell rights to other sectors)
- Farmers compensate by being more efficient on farm
- Investment is required in agricultural sector – only 4% of development finance goes to agriculture



## Agricultural water security

- Potential of pricing as tool to improve WUE is overstated –
  - Only effective as long term strategy and subject to conditions
- No country in the world uses pricing to balance water supply and demand
- Increased pricing can lead to increased demand – farmers change technologies, improve productivity and then expand their irrigated areas
- Create order first through knowledge, information, water accounting and incentives (other than economic) then you can manage – politicians need to accept this



## Local situation

Real gross domestic product  
Percentage change at seasonally adjusted annualised rates

Sectors	2007					2008				
	1st qr	2nd qr	3rd qr	4th qr	Year	1st qr	2nd qr	3rd qr	4th qr	Year
Primary sector .....	0,4	-2,5	1,7	1,2	0,8	-12,4	18,3	3,3	6,0	0,9
Agriculture.....	9,5	11,4	7,1	15,5	2,9	25,0	16,7	31,6	16,7	18,8
Mining .....	-2,8	-7,5	-0,4	-4,4	0,0	-25,8	19,2	-8,8	0,5	-6,5
Secondary sector .....	7,4	3,6	1,6	9,4	6,1	1,2	11,8	-4,6	-15,0	2,9
Manufacturing .....	5,8	1,4	-1,4	9,0	4,5	-0,6	14,3	-9,4	-21,8	1,2
Tertiary sector .....	5,6	4,9	6,1	4,7	5,4	3,7	1,6	1,7	2,4	3,5
Non-agricultural sector .....	5,5	3,7	4,5	5,3	5,2	1,1	5,0	-0,5	-2,2	2,8
Total .....	5,5	3,7	4,5	5,4	5,1	1,7	5,0	0,2	-1,8	3,1

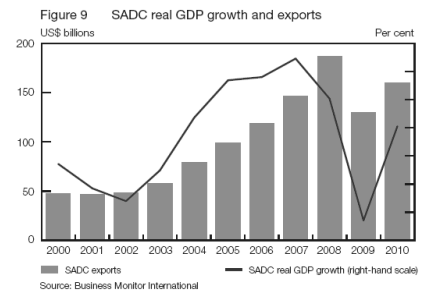


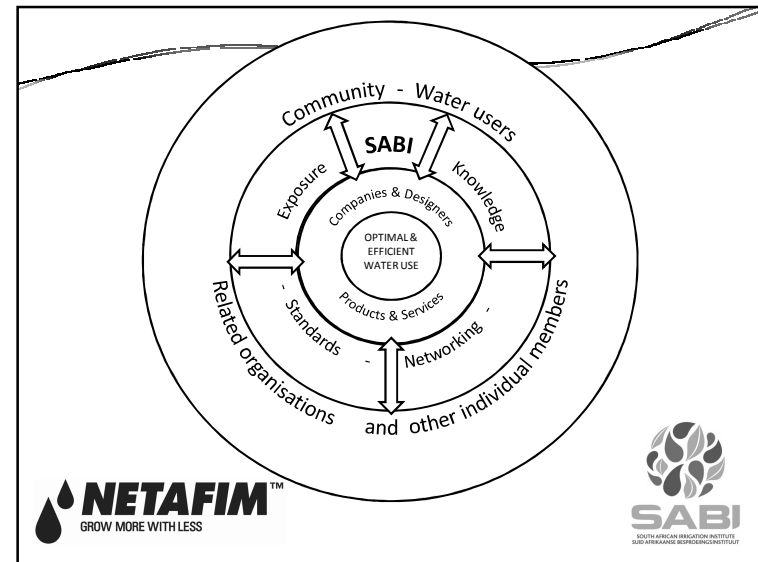
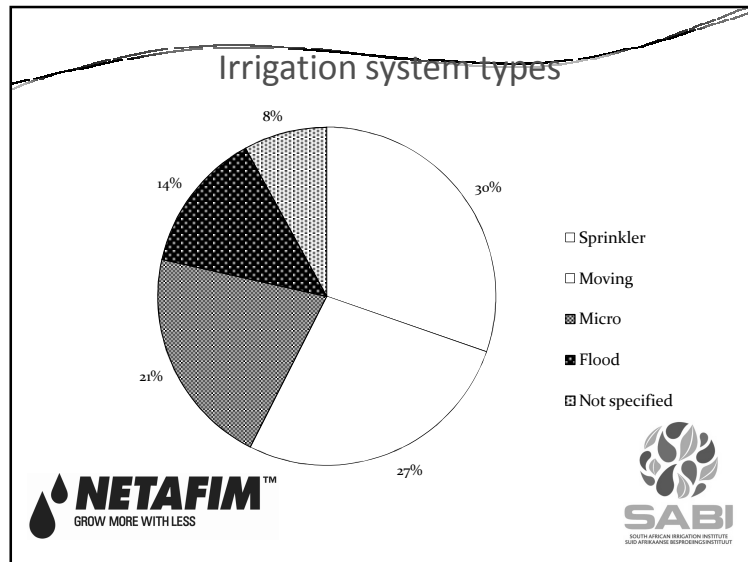
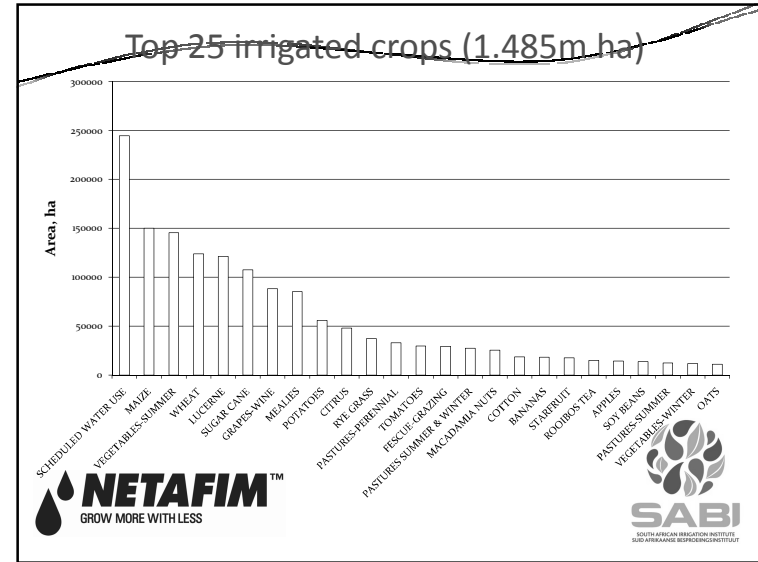
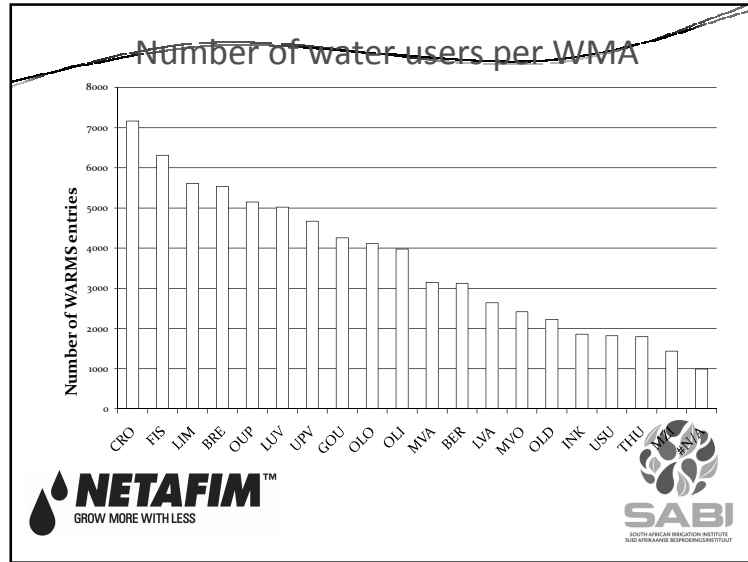
## Local situation

- Agricultural sector's performance throughout 2008 reflected a record gross income figure of R126bn.
- Effectively a 30% year-on-year increase
- Second highest growth rate in the past two decades
- The highest was 34% realised in 2002.
- Replaced old infrastructure/assets to improve productivity and maintain competitiveness - record number of tractors sold during the course of 2008/09



## Local situation – looking forward?





**The needs of the irrigation sector therefore requires that SABI...**

- Develop and maintain knowledge and standards of best irrigation design and management practice,
- Create awareness amongst all roleplayers of the importance of optimal and efficient use of water through knowledge dissemination, and
- Create opportunities for networking and exposure so that
- All SABI members can enjoy greater recognition, thereby increasing the demand for our knowledge, standards, products and services.

SABI wants to build a better informed irrigation industry



**How do we do this – SABI's activities**

- Norms and standards
- Membership
- Awards
- Branch meetings (golf & farmers' days)
- Congress
- Training
- Newsjet
- Web site
- Magazine
- Exhibitions (Bien Donne, NAMPO)
- Advertising / Press releases
- Radio talks
- TV presentations

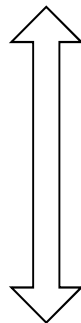


**Reaching out - SABI's activities**

- Norms and standards
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- Awards
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Reaches the SABI member

Reaches the general public



**Overburdening complexity in Land and Water**



Figure 6. Complexity of land and rural water (Huppert, 2006)

## Congress 2009 program

- Optimal use of resources – soil, water climate
- Effective technical and economic planning of irrigation systems
- Irrigation design – applying sound principles to new trends
- Running a successful small / medium enterprise
- Landscape and turf irrigation
- Greenhouses & intensive crop production systems



## Conclusion

- Investment in physical and social infrastructure for agricultural water use required to ensure social stability, economic development and poverty reduction
- Innovative approaches built on sound principles are needed to find appropriate solutions
- Can the 21<sup>st</sup> century be the century of agriculture?

