SANCID 2012 Symposium

'Irrigation in a Changing Environment'

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Chairman: SANCID

South African National Committee on Irrigation and Drainage

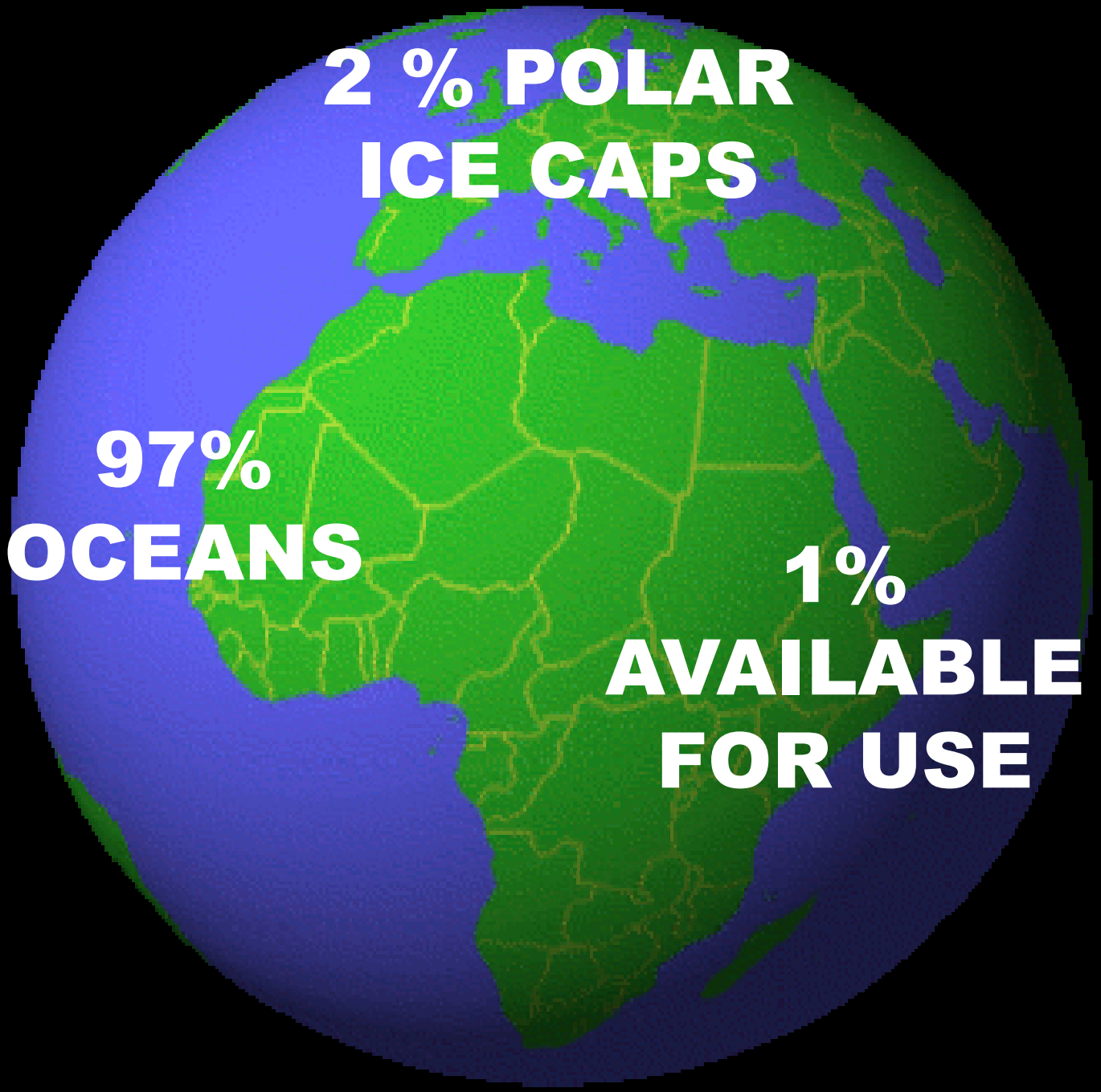
‘Irrigation in a Changing Environment’

Current Drivers:

- The continuing food crisis and volatile food prices
- Climate variability – floods and droughts
- Competition from other water users
- Population growth
- Lack of water storage capacity
- Demands for energy and alternative fuels
- Changing dietary patterns
- Weak institutional capacity
- Lack of investments in agriculture and water
- Weakened applied research and technology transfer capabilities
- Environmental and water quality degradation

Price Volatility

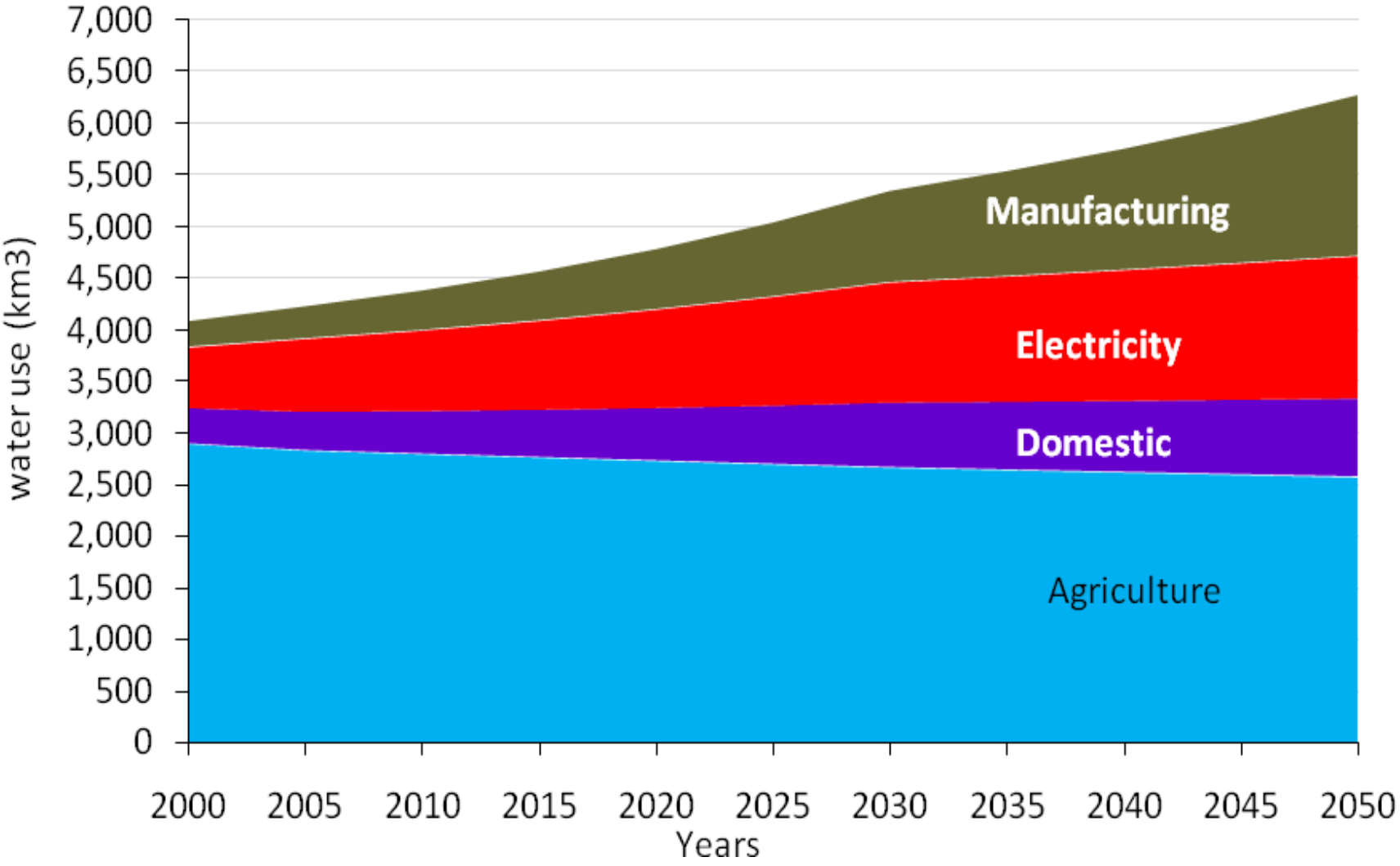
WATER



The importance of water:

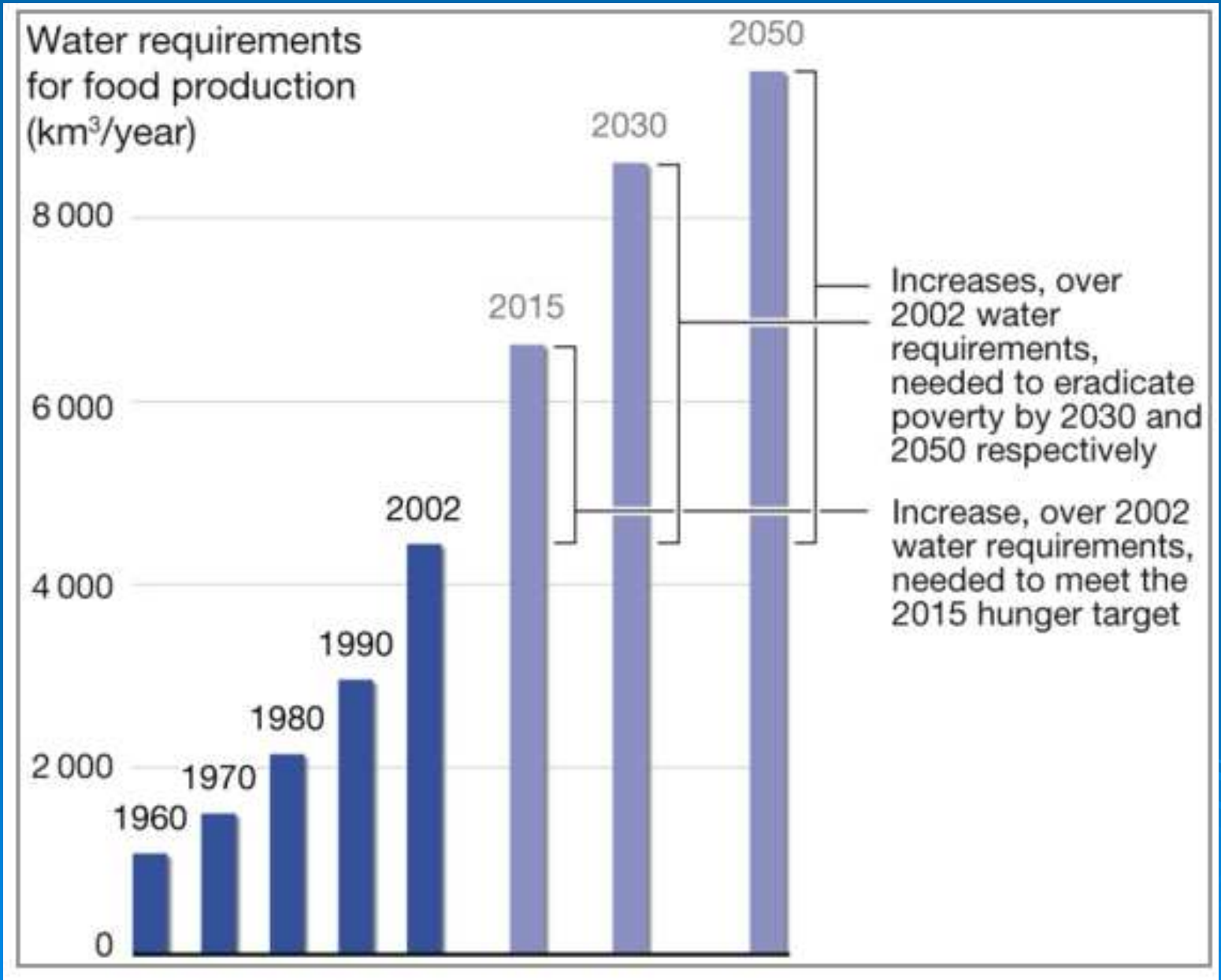
- Water is the key to food security
  - without water, crops simply cannot grow.
- Water is not just for primary production
  - it plays a vital role at all stages along the agricultural value chain
- Water for agriculture connects us all together like no other resource.
  - In times of scarcity we all have a responsibility to use water wisely, efficiently and productively.

RISING WATER DEMAND FROM OTHER SECTORS

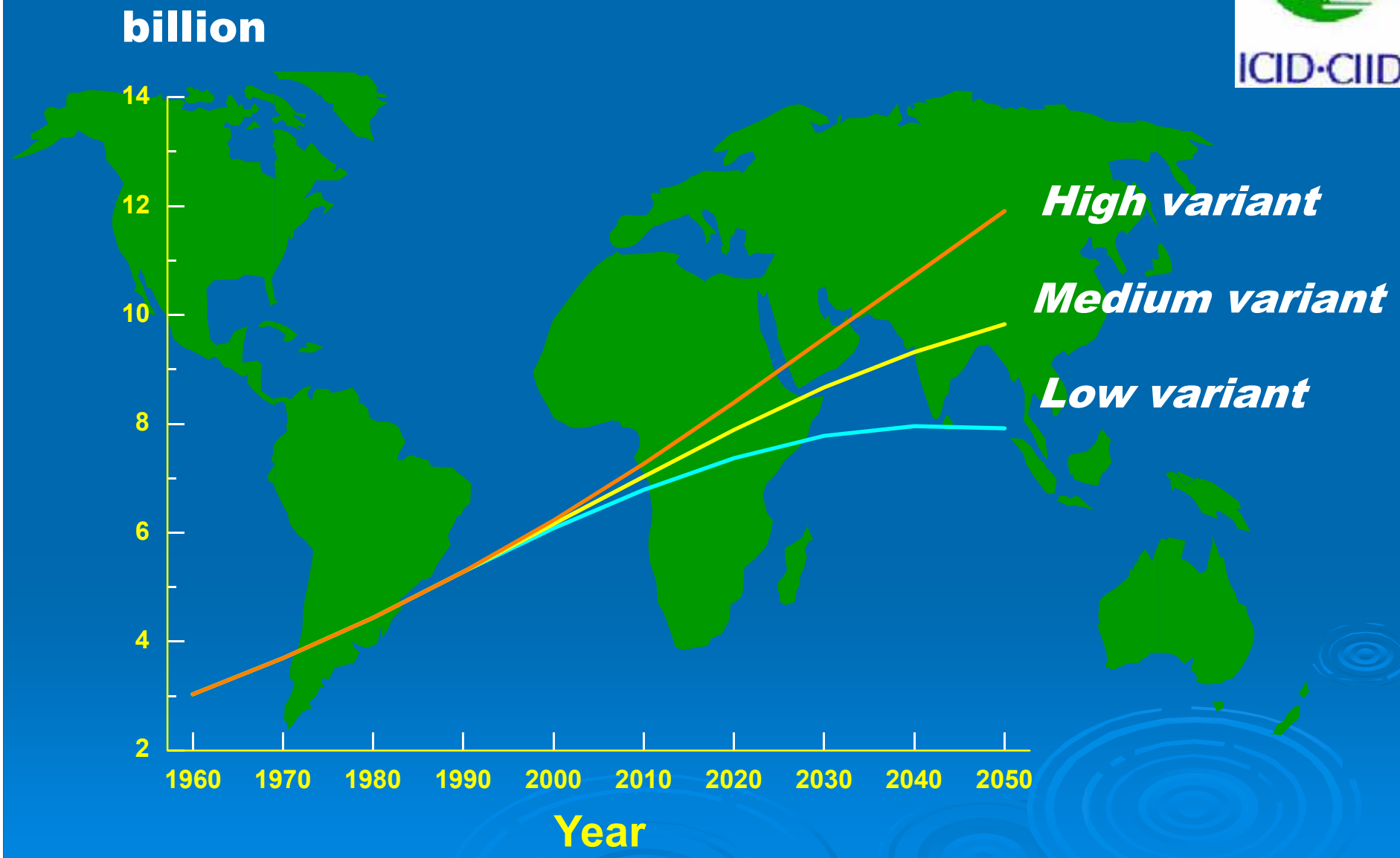


Source: FAO 2009

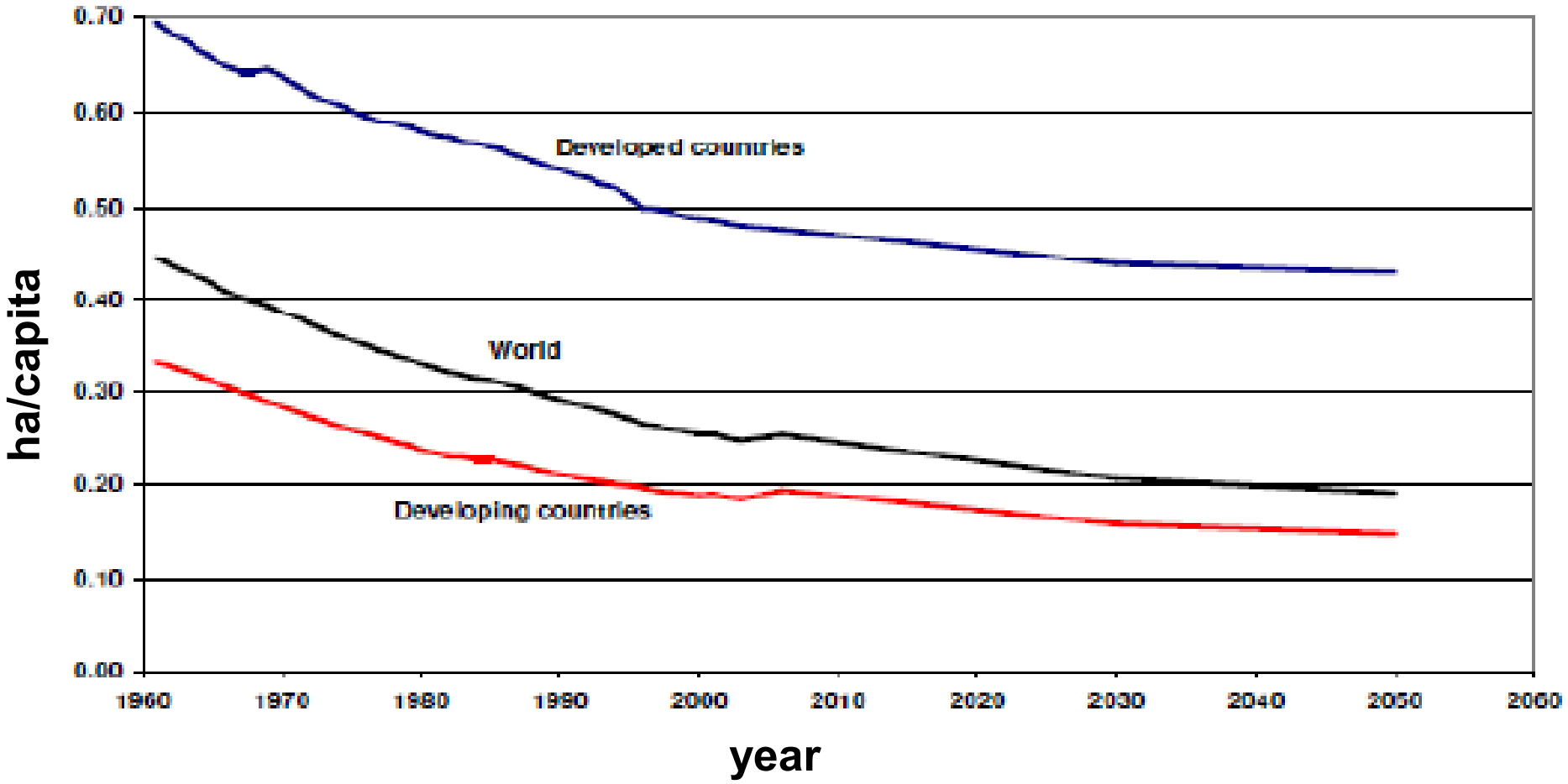
Water requirements for food production 1960-2050



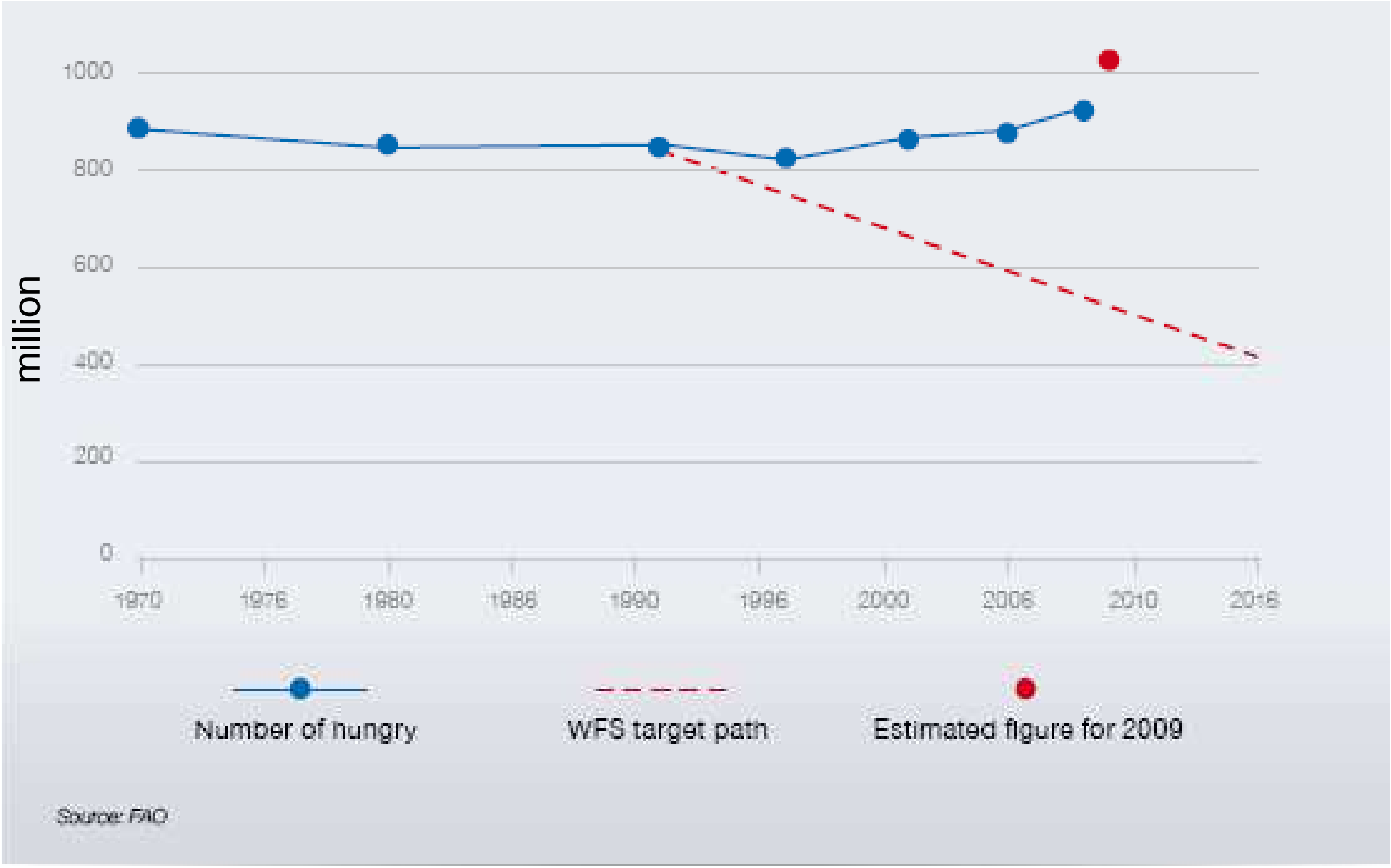
Global Population 1960 - 2050



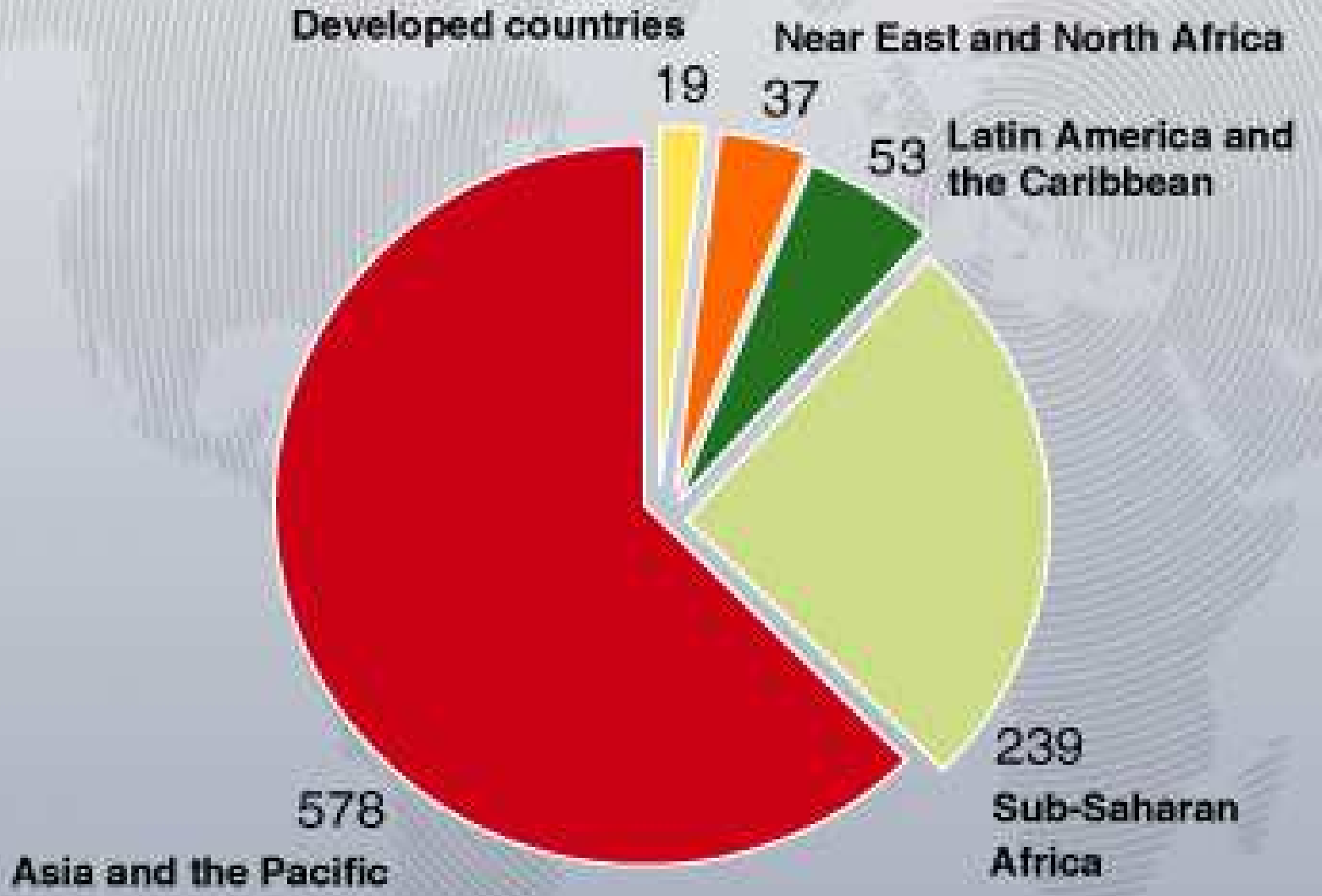
Arable land per capita in ha



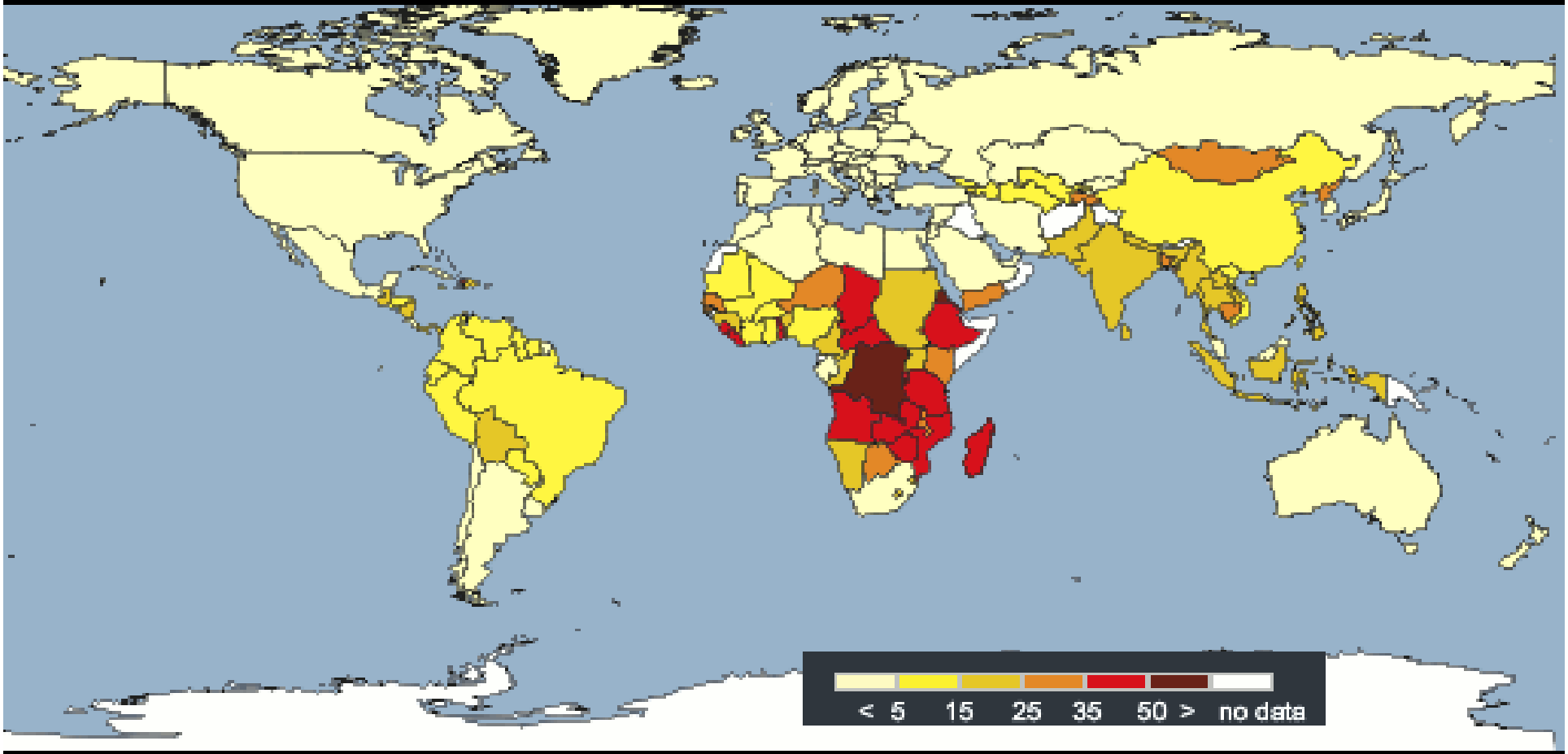
Number of hungry people in the world



Global Food Crisis:
925 million people hungry in 2010

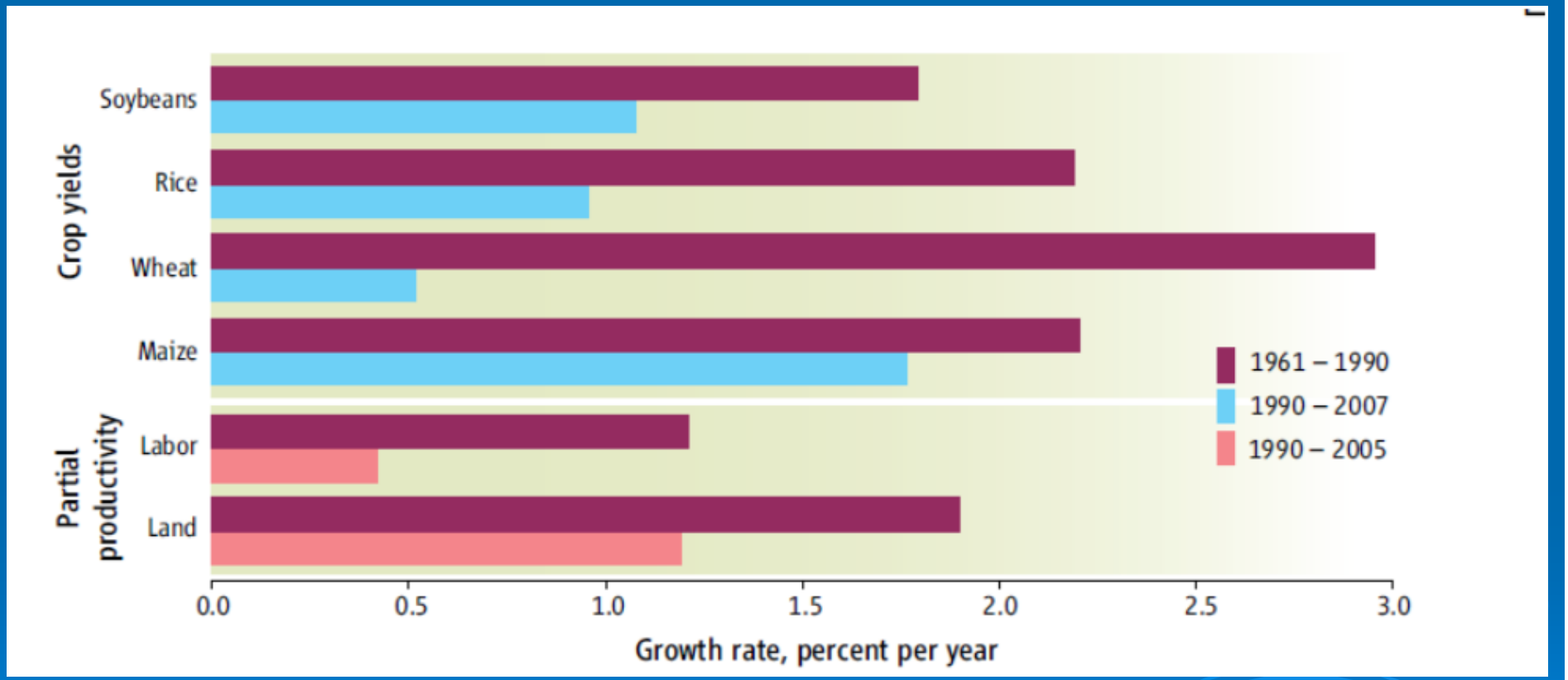


Undernourishment in Total Population (%)



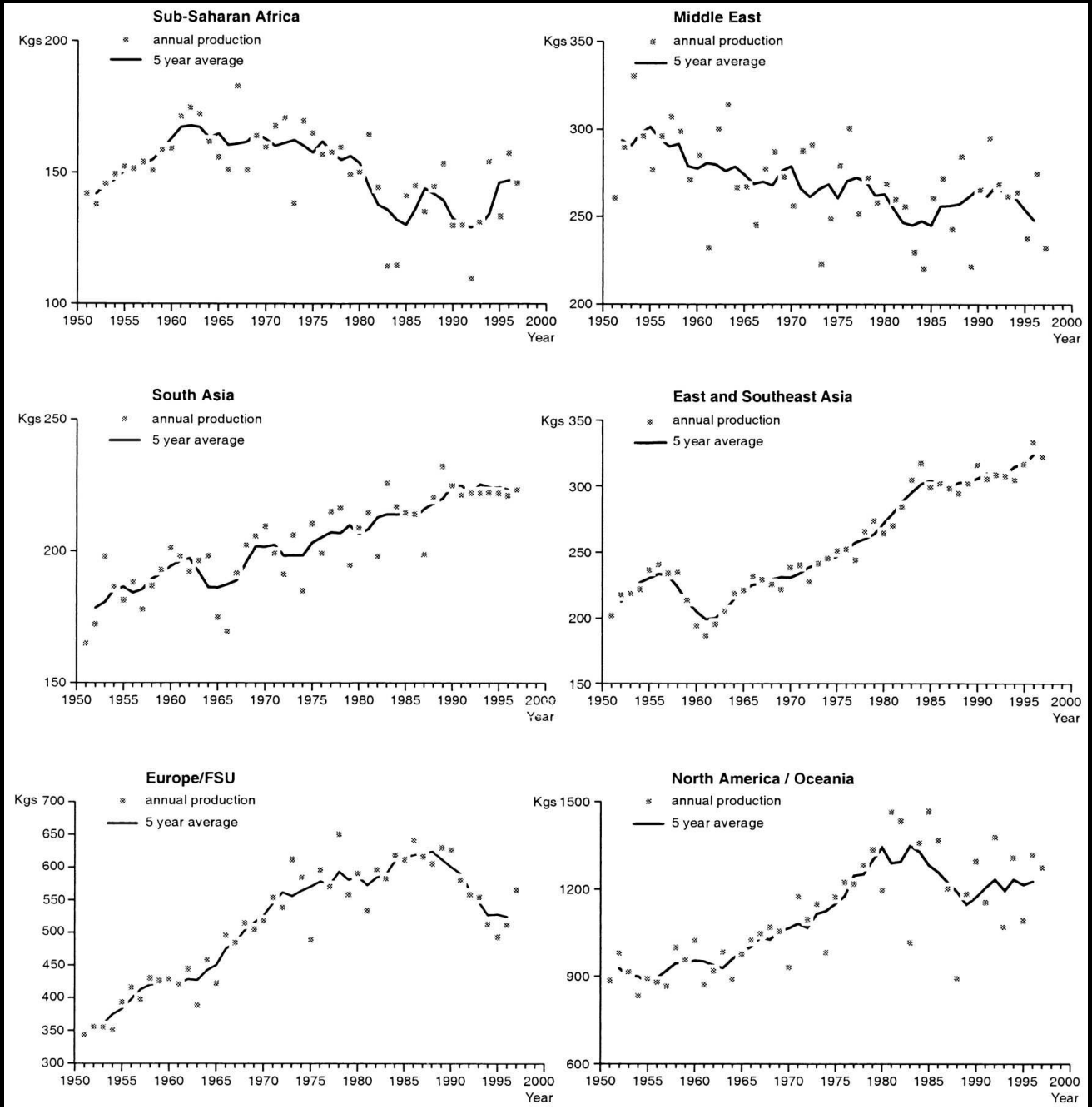
Food production needs to double over the next 25 years to meet population demands

Limitations to crop growth



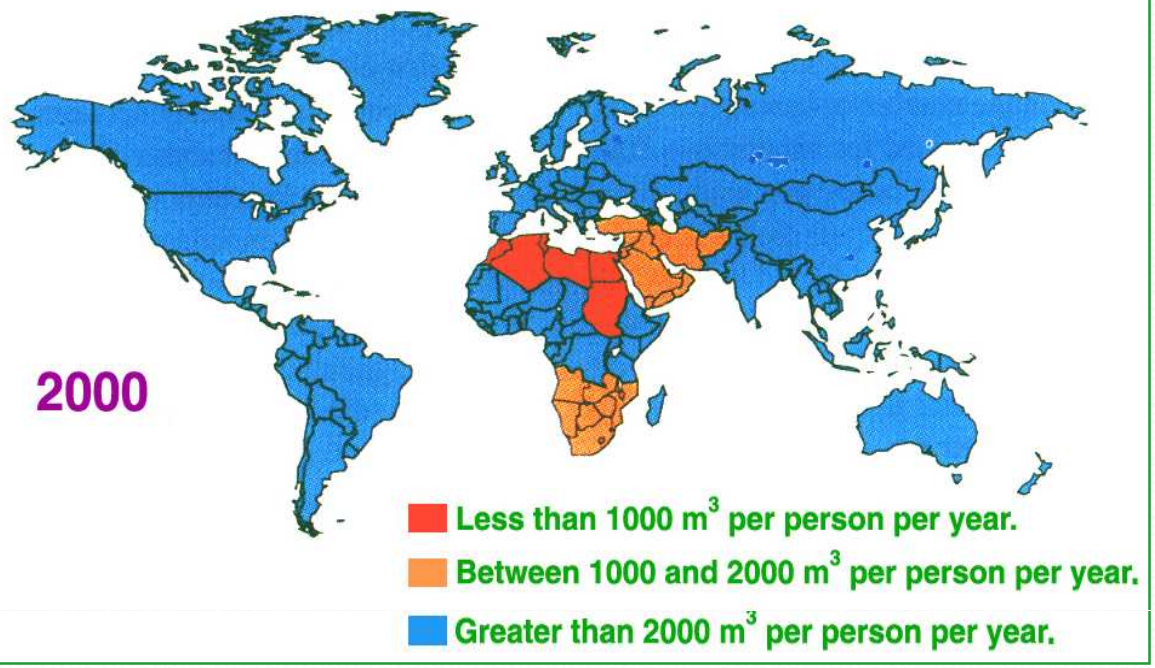
(Source: Alston et al. 2009, Science.)

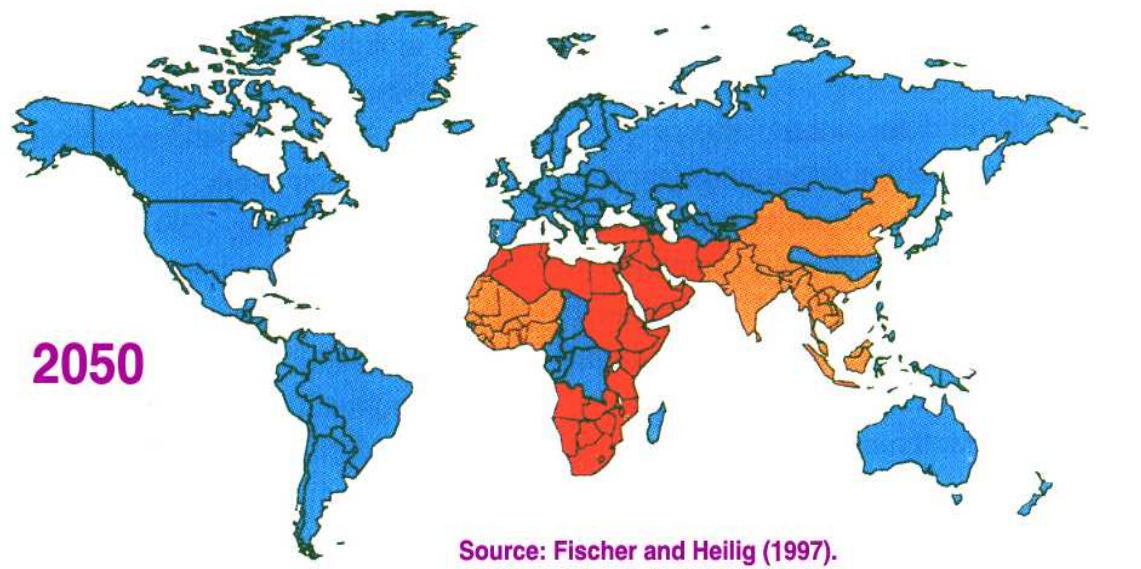
Per-capita cereal production by world region




Two thirds of the world's population
WILL BE AFFECTED BY WATER SHORTAGES BY THE YEAR 2030

Global Water Scarcity





Source: Fischer and Heilig (1997).

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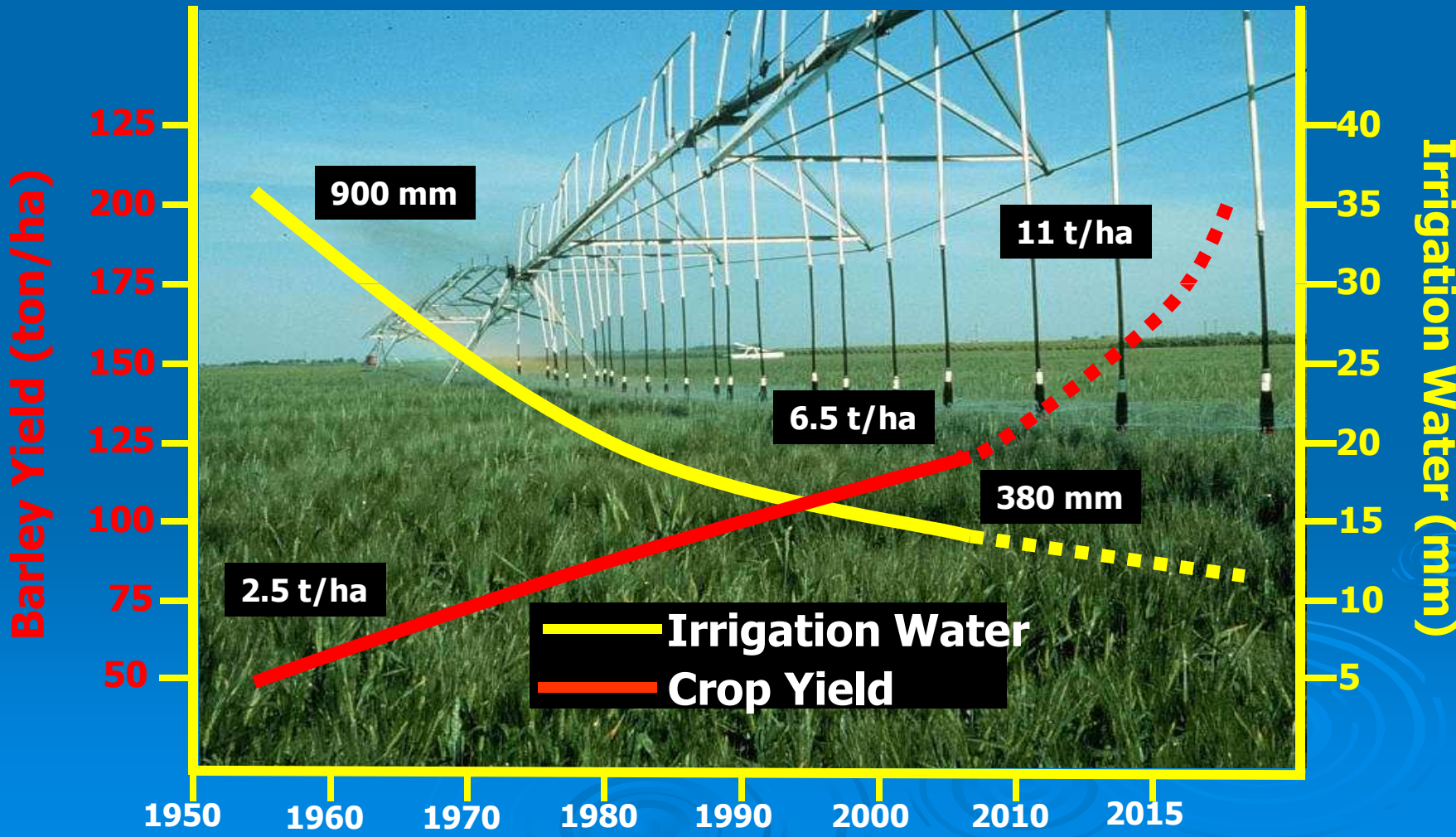
Much has been done…….

Increasing the Productivity of Irrigation Water



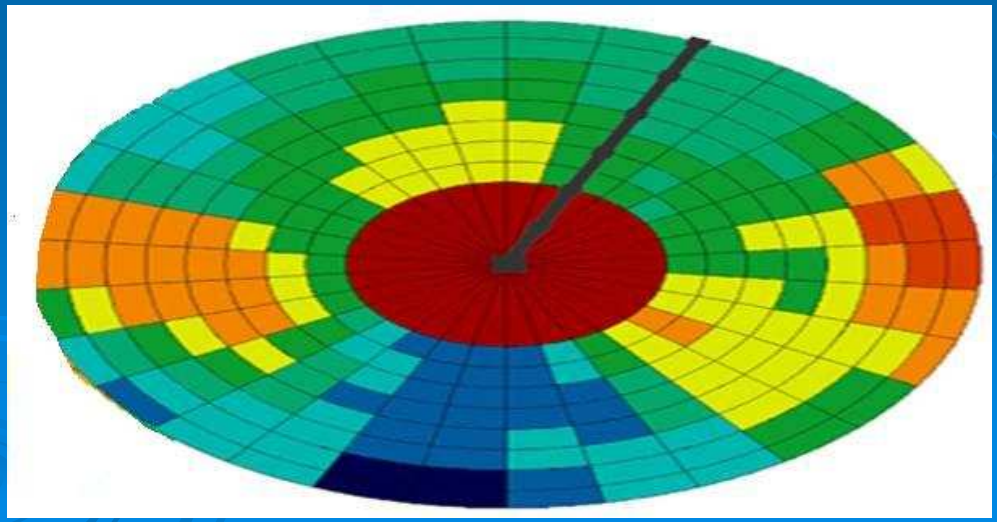
But much more remains to be done……

Under-investment in infrastructure and rehabilitation and maintenance

UNDER-INVESTMENT IN R&D, TECH TRANSFER AND CAPACITY BUILDING

Rapid introduction of advanced technologies

A far way to go….



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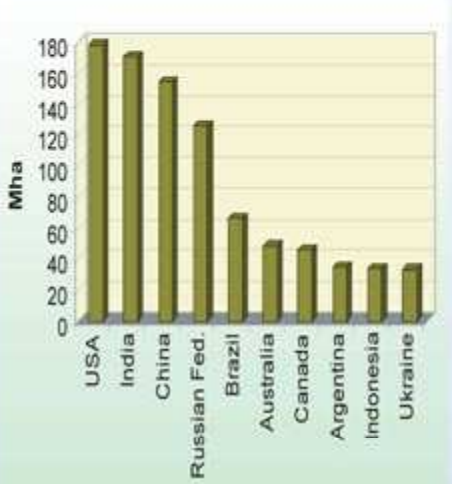
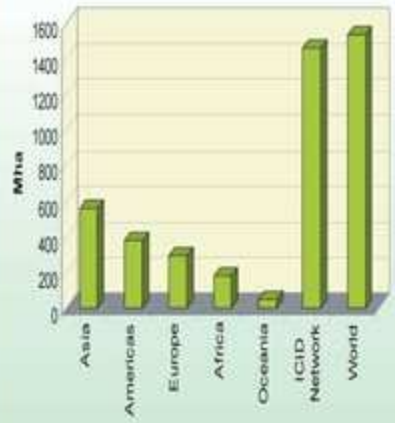
Arable and Permanent Cropped Area

Top Ten Countries in the World (2002)

Sr. No.	Country	Arable and Permanent Cropped Area (Mha)
1	USA	178.1
2	India	170.1
3	China	153.9
4	Russian Fed.	125.5
5	Brazil	66.6
6	Australia	48.6
7	Canada	45.9
8	Argentina	35.0
9	Indonesia	33.7
10	Ukraine	33.5
*	Total	891
*	World	1534
*	Top 10 as %	58.1



Regionwise ICID Network Coverage (2002)



Sr. No.	Region	Arable & Permanent Cropped Area (Mha)
1	Asia	556
2	Americas	378
3	Europe	293
4	Africa	177
5	Oceania	52
*	ICID Network	1455 (95%)
*	World	1534
Percentage of World		
*	USA	11.6%
*	India	11.1%
*	China	10.0%

Source : ICID (2005), FAO (2003)

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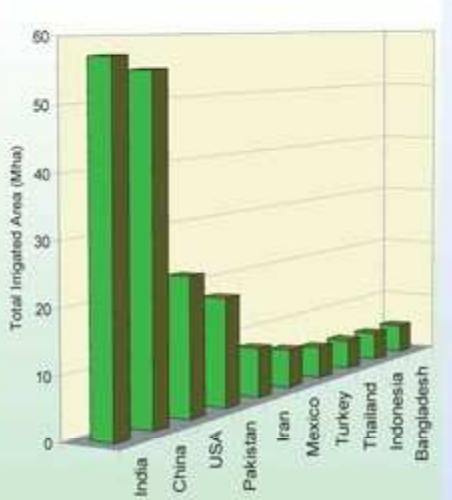
Irrigated Area

Top Ten Countries in the World (2002)

Sr. No.	Country	Total Irrigated Area (Mha) (% of the World)
1	India	57.2
2	China	54.9
3	USA	22.5
4	Pakistan	17.8
5	Iran	8.1
6	Mexico	6.3
7	Turkey	5.2
8	Thailand	5.0
9	Indonesia	4.8
10	Bangladesh	4.7
*	Toal	187
*	World	277
*	Top 10 as % of the world	67.3



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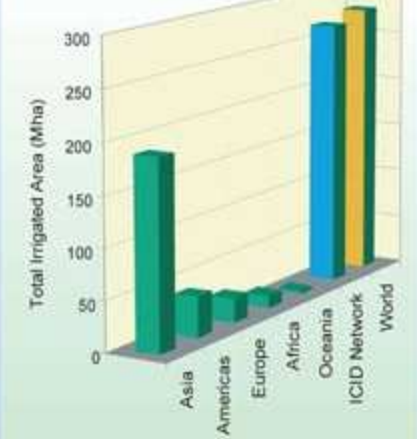
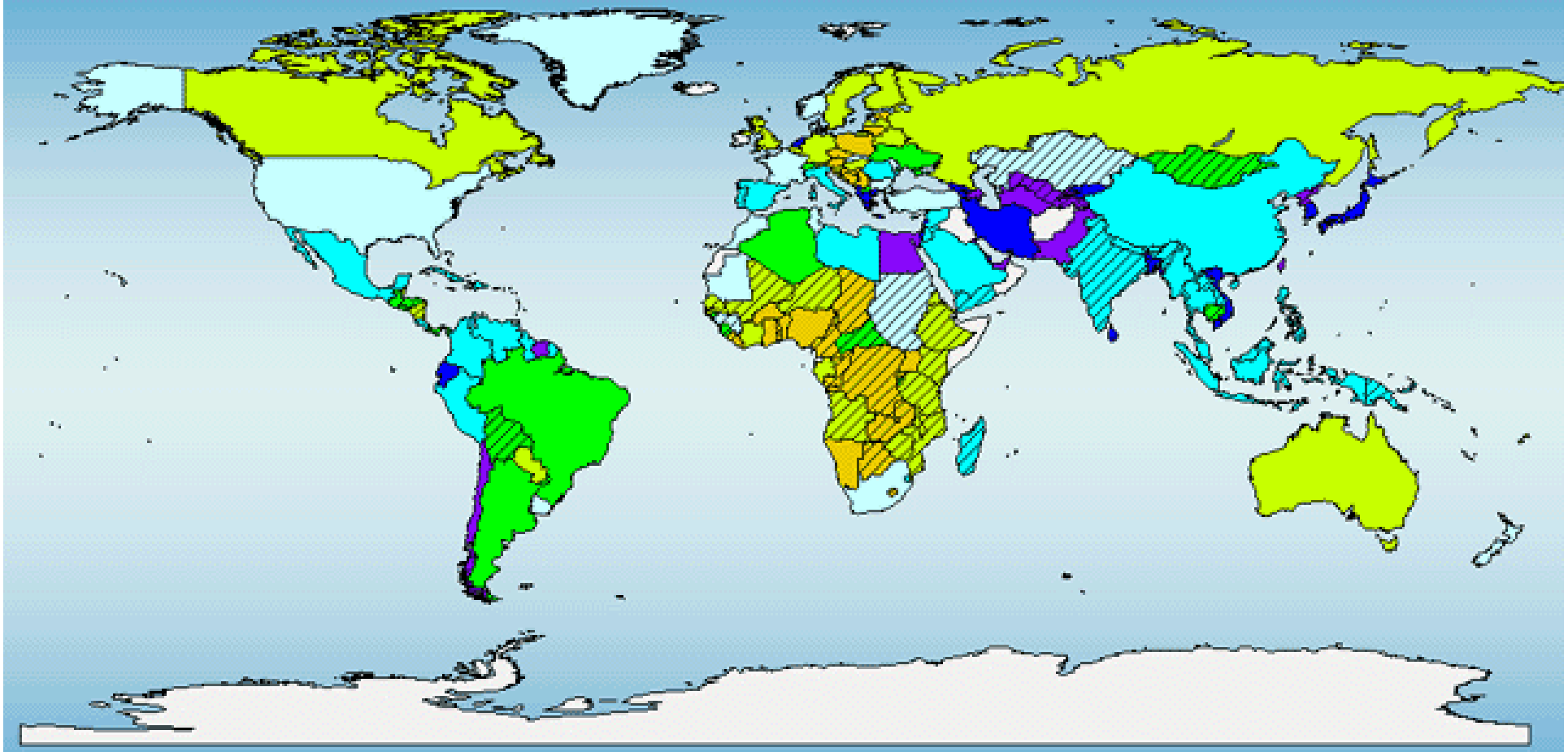


Sr. No.	Region	Total Irrigated Area (Mha)
1	Asia	188
2	Americas	41
3	Europe	24
4	Africa	12
5	Oceania	2
*	ICID Network	268 (97%)
*	World	277
Percentage of World		
*	China	20.6%
*	India	19.8%

Source : ICID (2005), FAO (2003)

Irrigated Land (2000)



20% or more undernourished

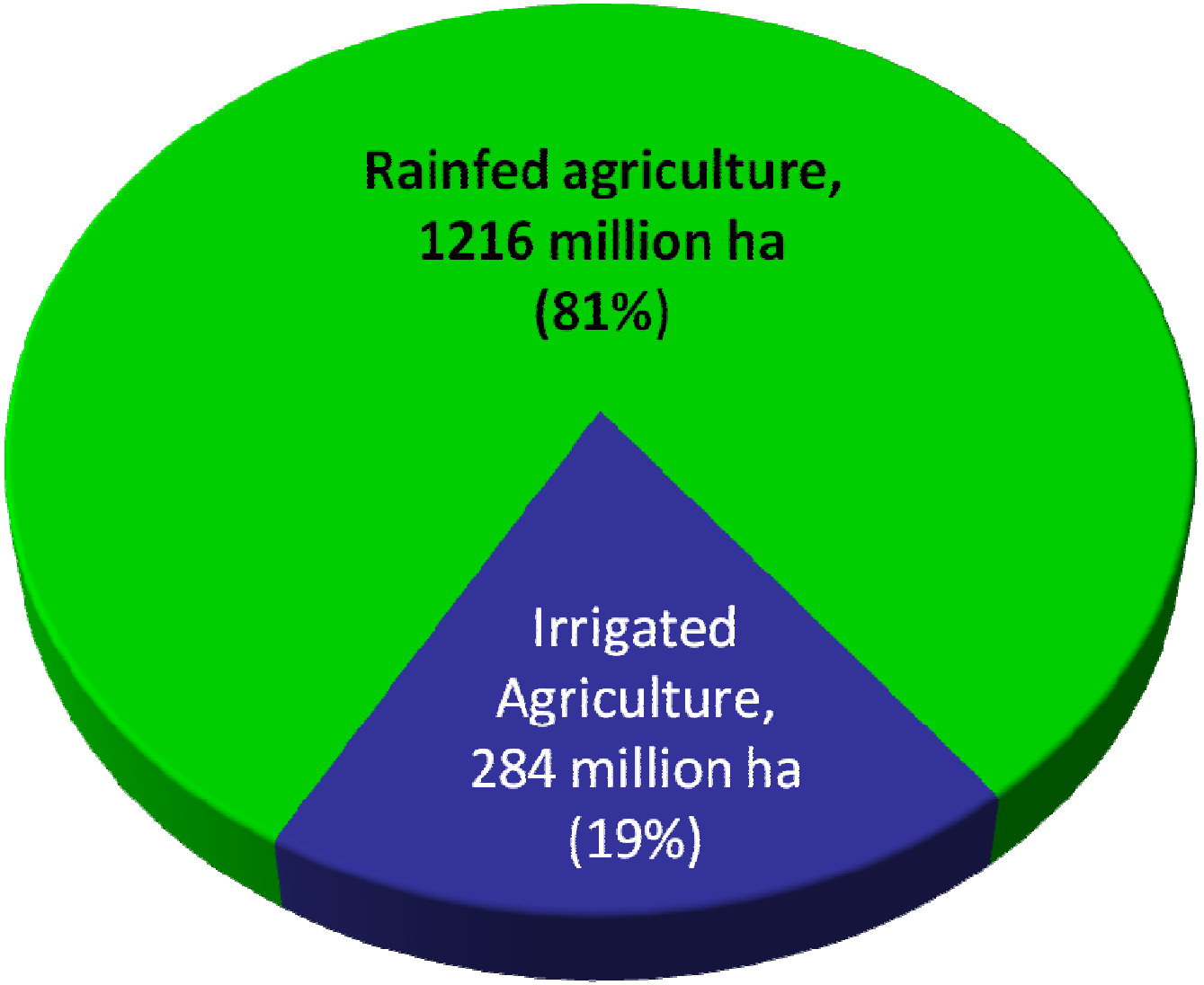
No data for one or both variables

< 1 5 10 20 50 80 > % total arable land

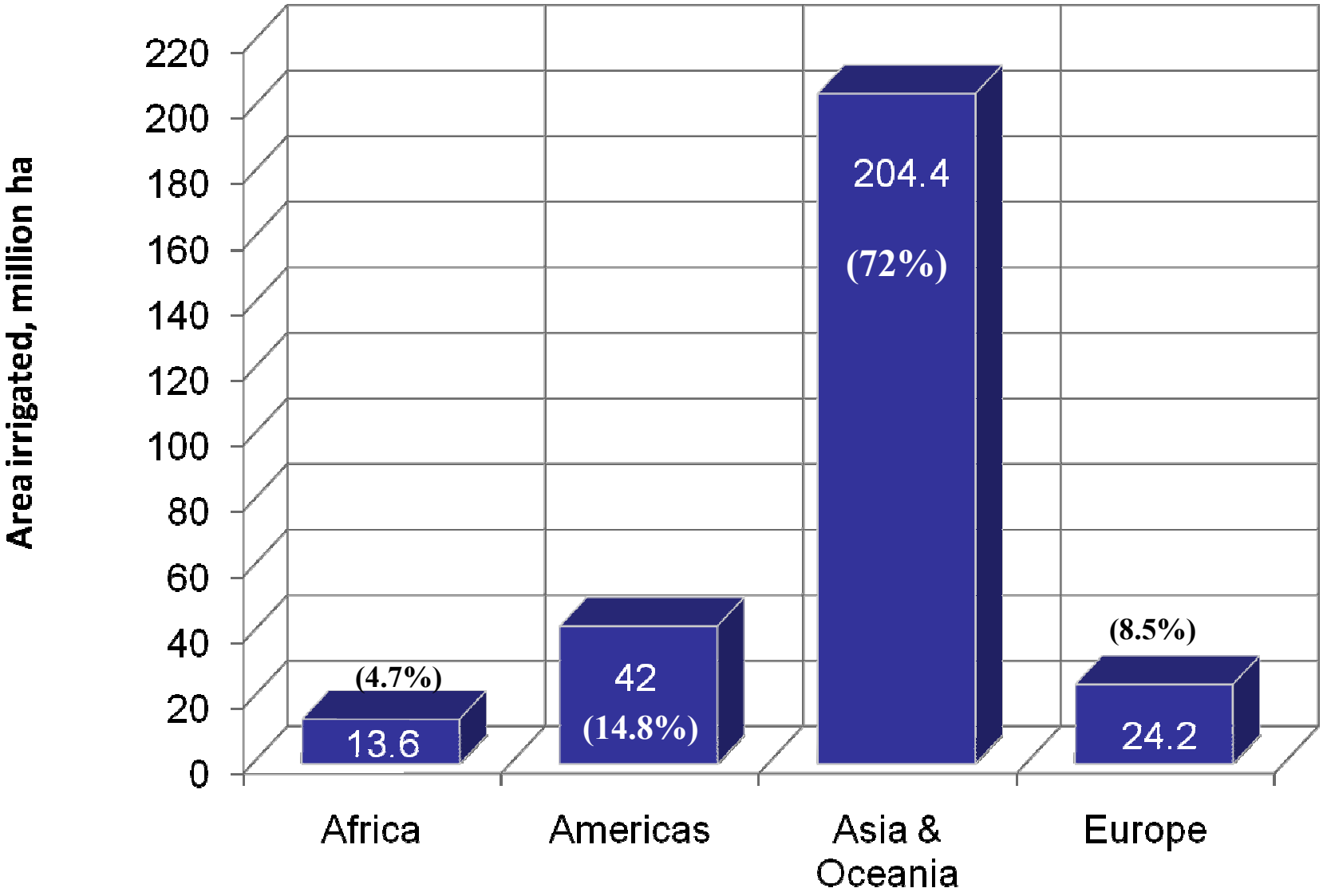
Map 16

Based on data from FAOSTAT.
Prepared by: FAO Statistics Division
Rome, 2003

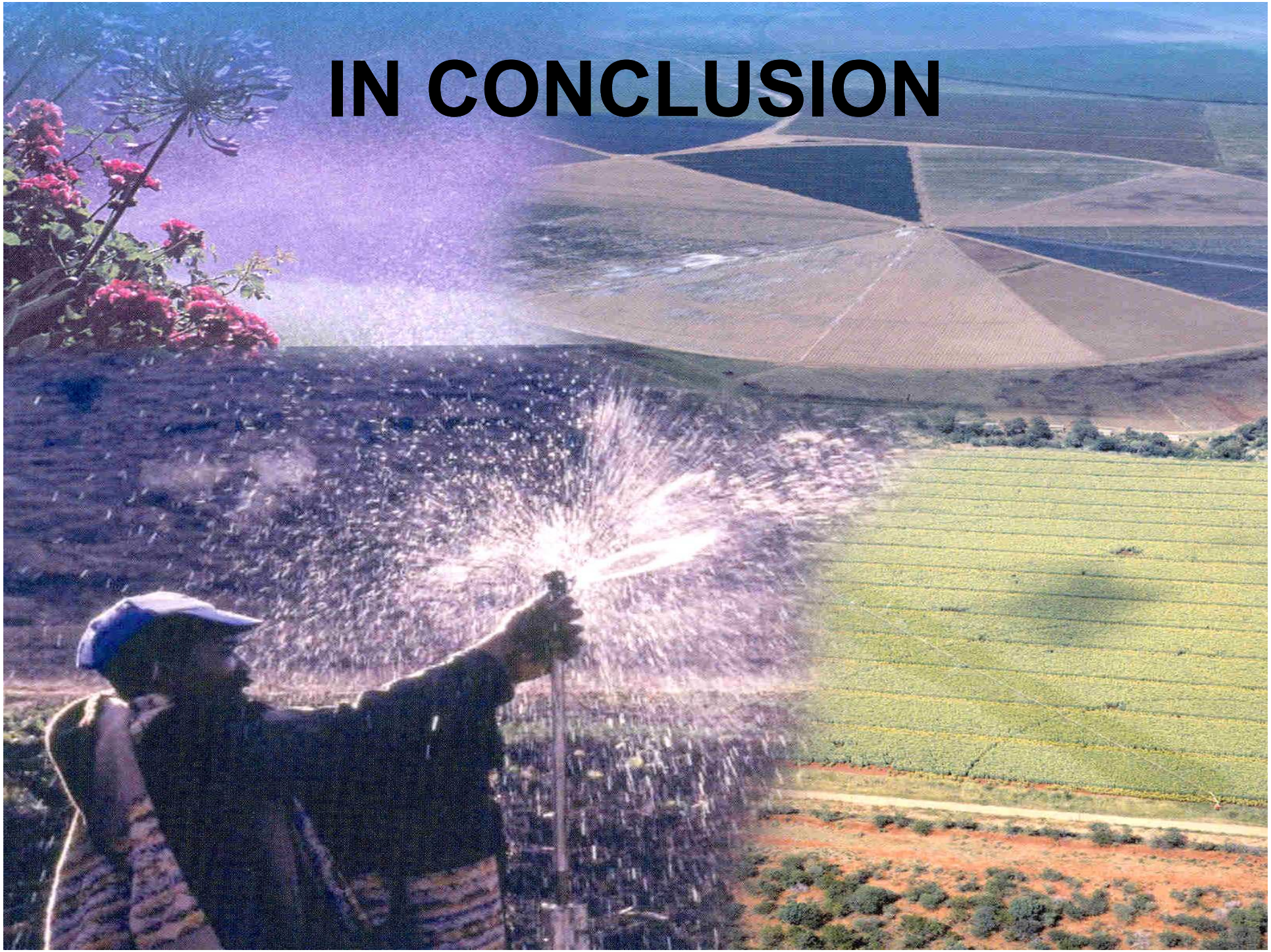
Global irrigated area



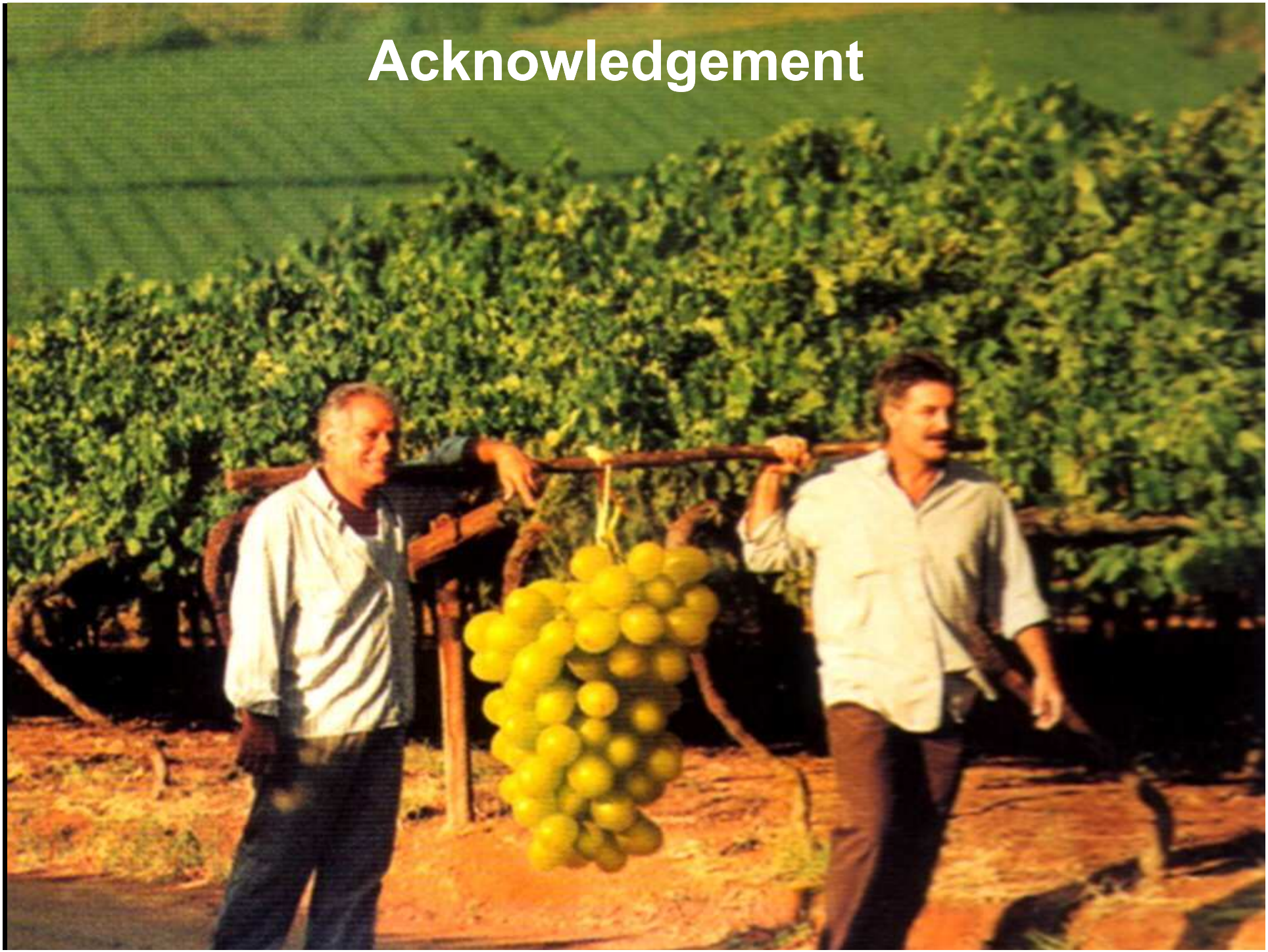
Region wise Irrigated Area



IN CONCLUSION



Acknowledgement



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SANCID celebrates 19 years of excellence, with a small beginning in 1993 and great achievements since then within a competitive international arena.

It therefore gives me great pleasure to welcome you to the

2012 SANCID Symposium

here at

Alpine Heath Resort,

Northern Drakensberg (KwaZulu-Natal)

South Africa.

Apart from the magic that you'll find here in the Drakensberg you have been searching for, where you can forget the stress & strains of the City Life , you will have the opportunity to explore the theme of the Symposium:

'Irrigation in a Changing Environment'

through 31 excellent papers that will be presented by expert presenters.

Enjoy the journey