Presentation from

2016 World Water Week in Stockholm

www.worldwaterweek.org

DRAFT

A TRIPLE GREEN FUTURE FOR HUMANITY

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SIWI

Seminar issue

* water and land use in drylands regions:

special focus on Green Revolution in Africa

- relevance:

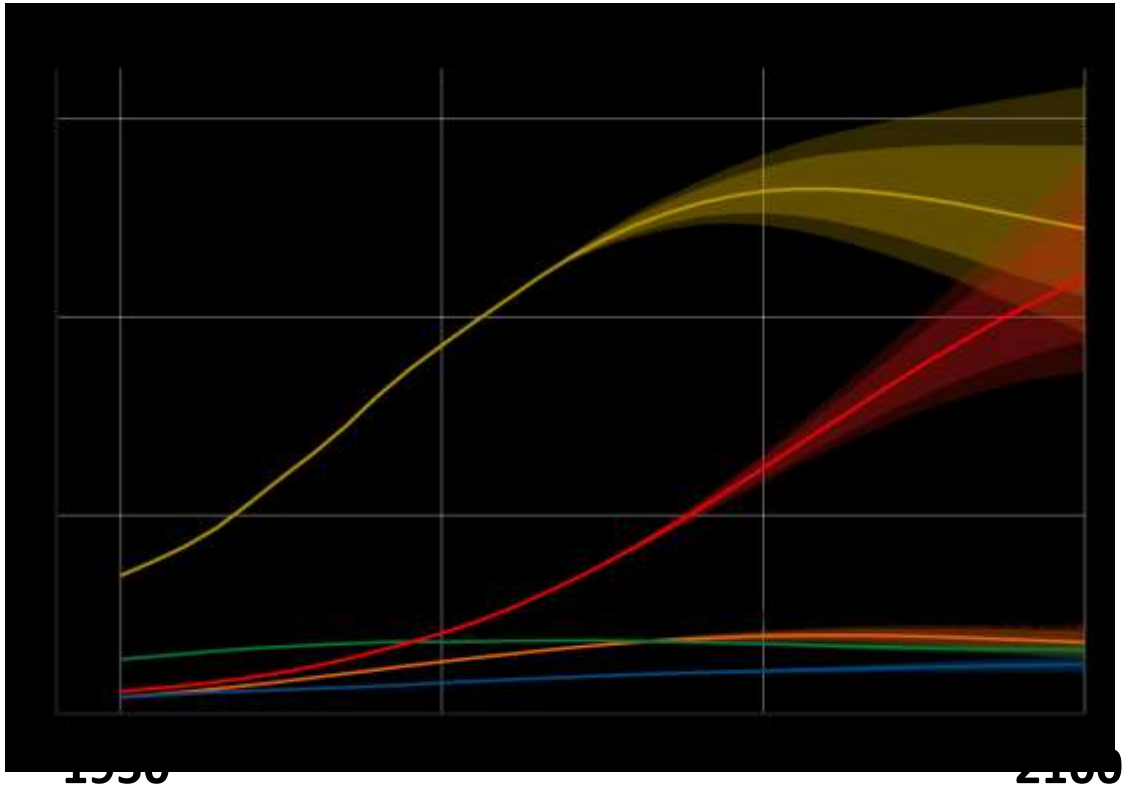
massive

African

population

growth

foreseen

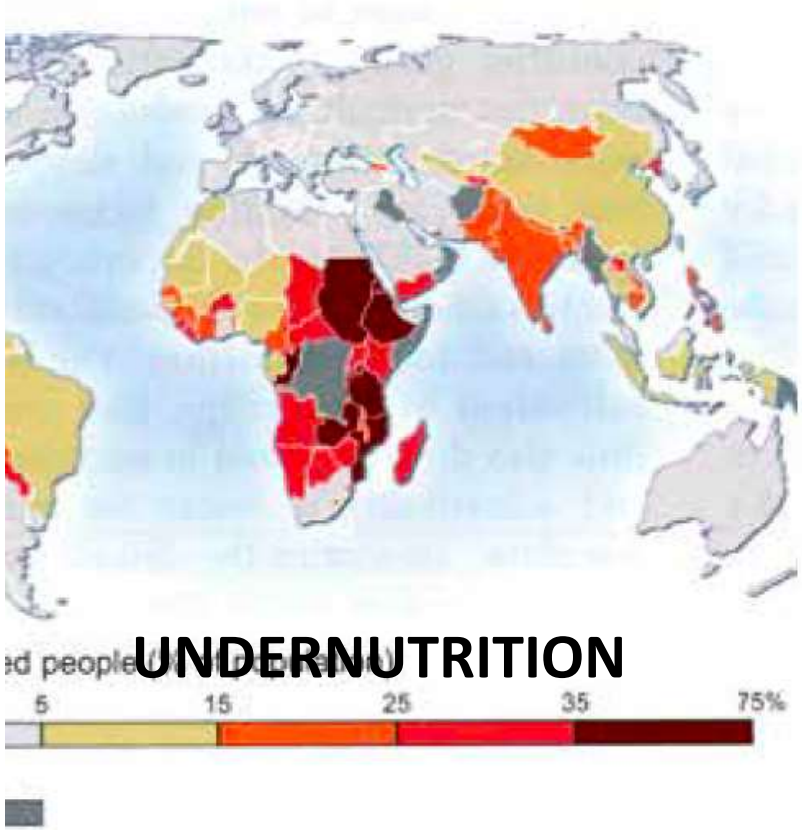


1950 2100

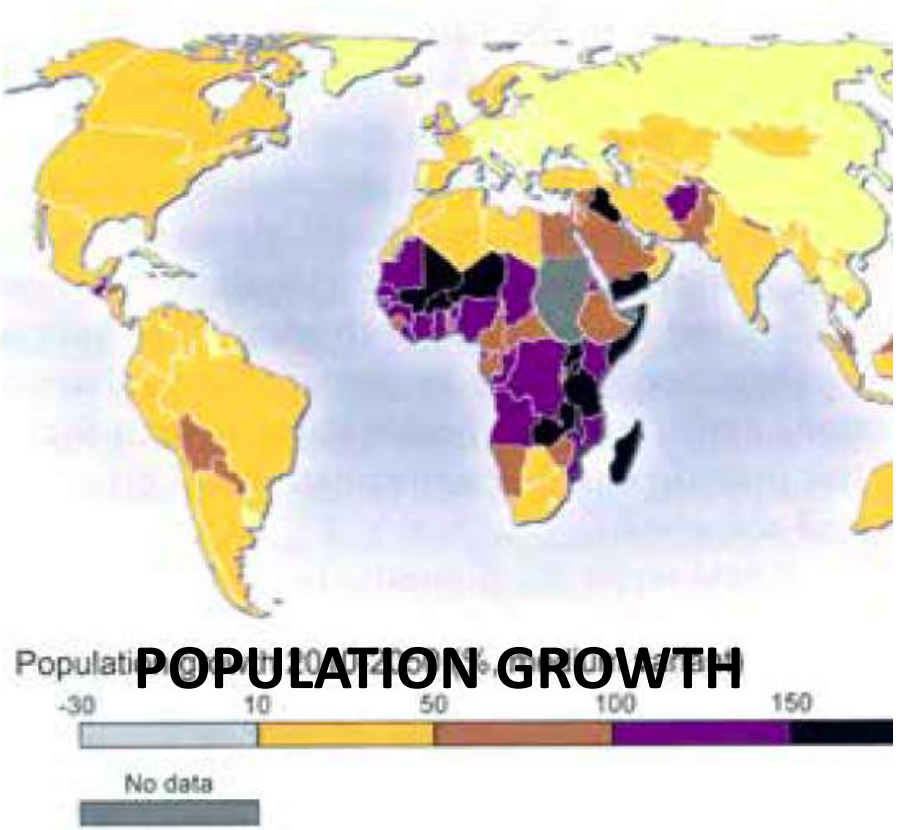
pink = Africa: + 2 à 3 bln

Undernutrition + population growth culminates in Africa

* critical issue for SDG achievements



UNDERNUTRITION



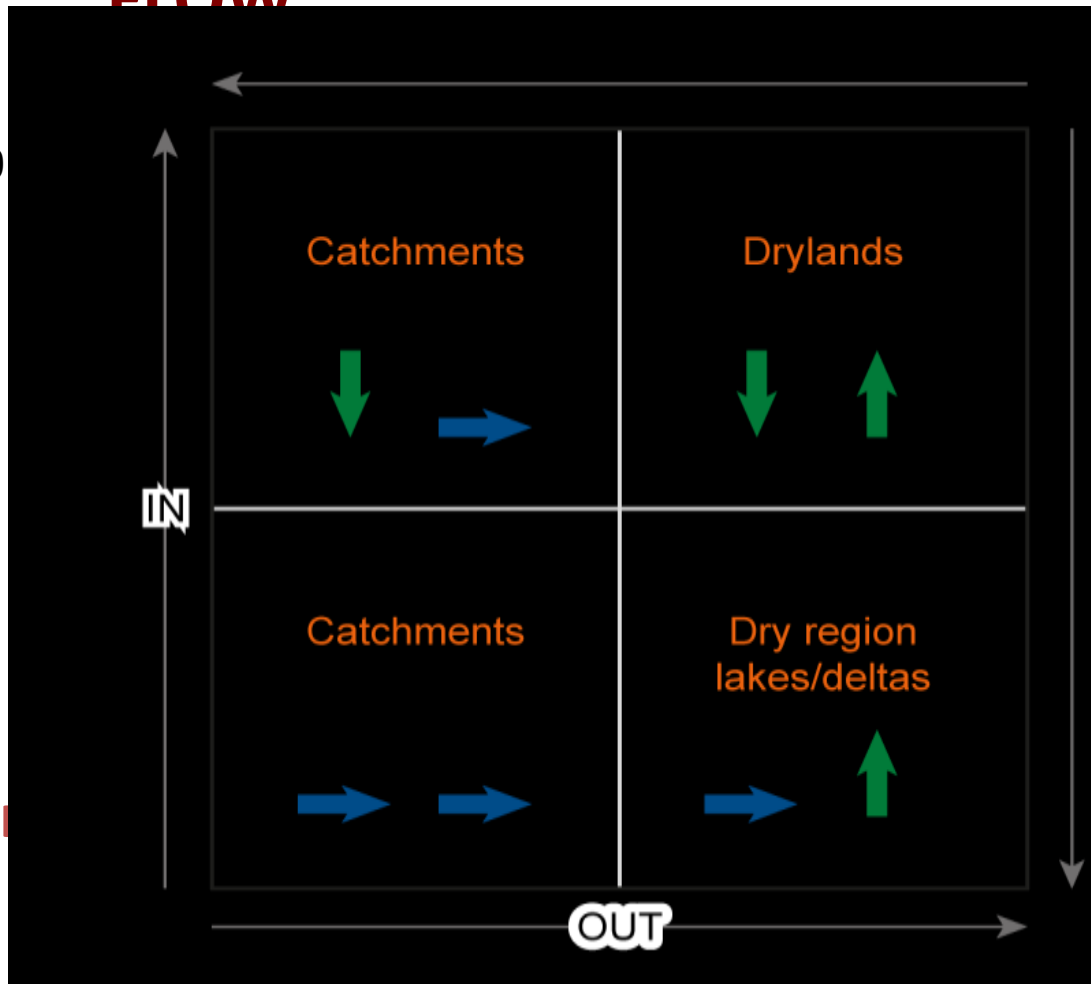
POPULATION GROWTH

What characterizes African drylands?

PERCENT VERTICA

FLOW

*arid climate
*frequent droughts
*runoff generation low
- most rain evaporates
- most local runoff evaporates on its way to a river
* hydrological balance: evaporation dominates over runoff generatio



Dryland hotspot region

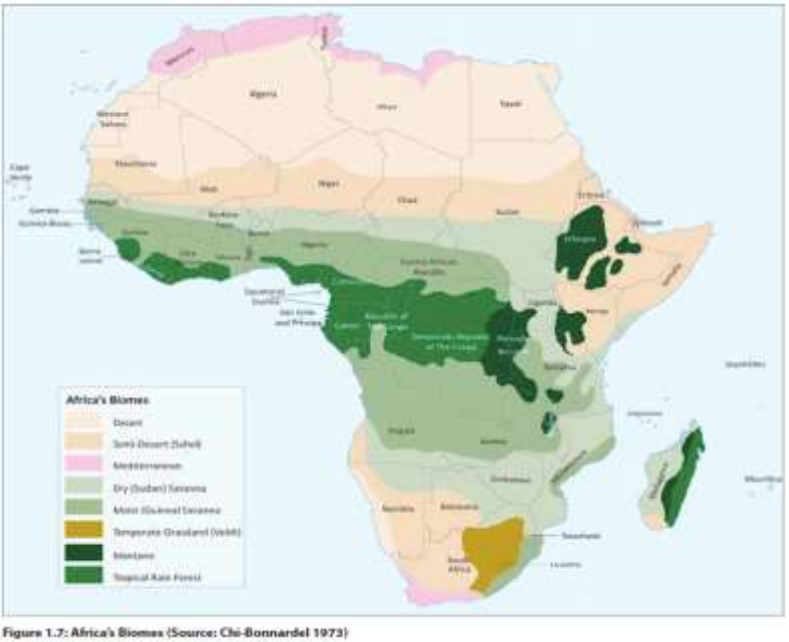
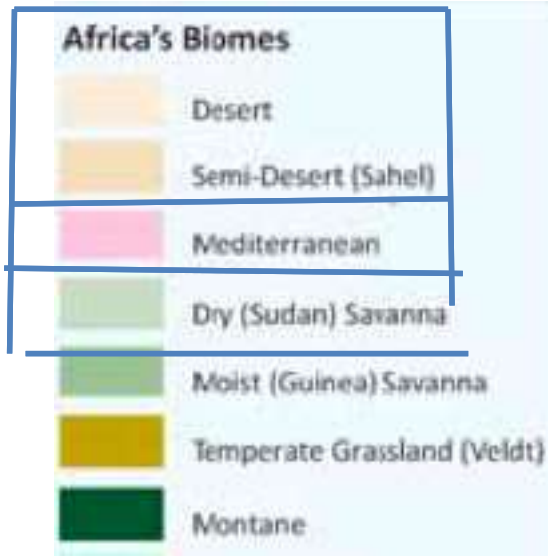
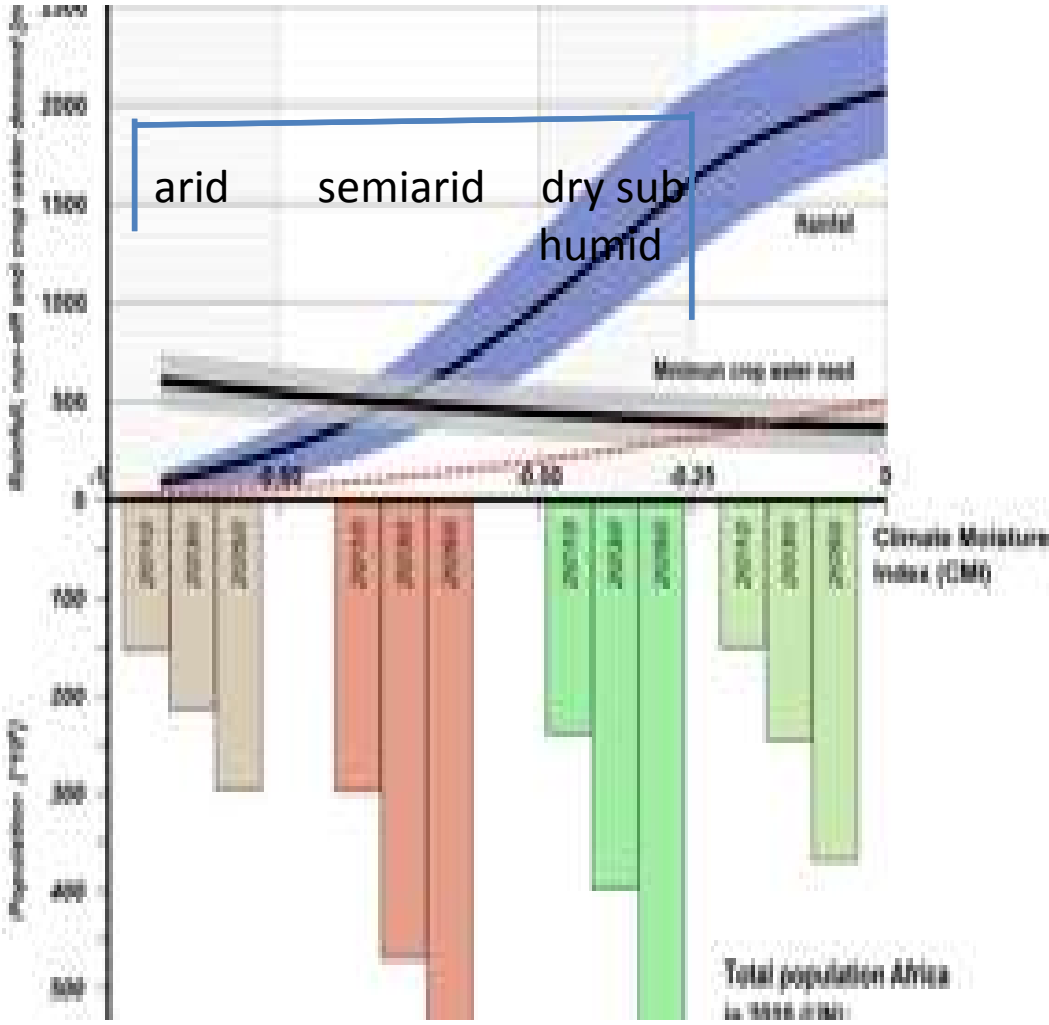


Figure 1.7: Africa's Biomes (Source: Chi-Bonnardel 1973)





2050: 300Mp 670M 600Mp 350Mp

Hotspots and hopespots

***rainwater harvesting = vaste opportunity**

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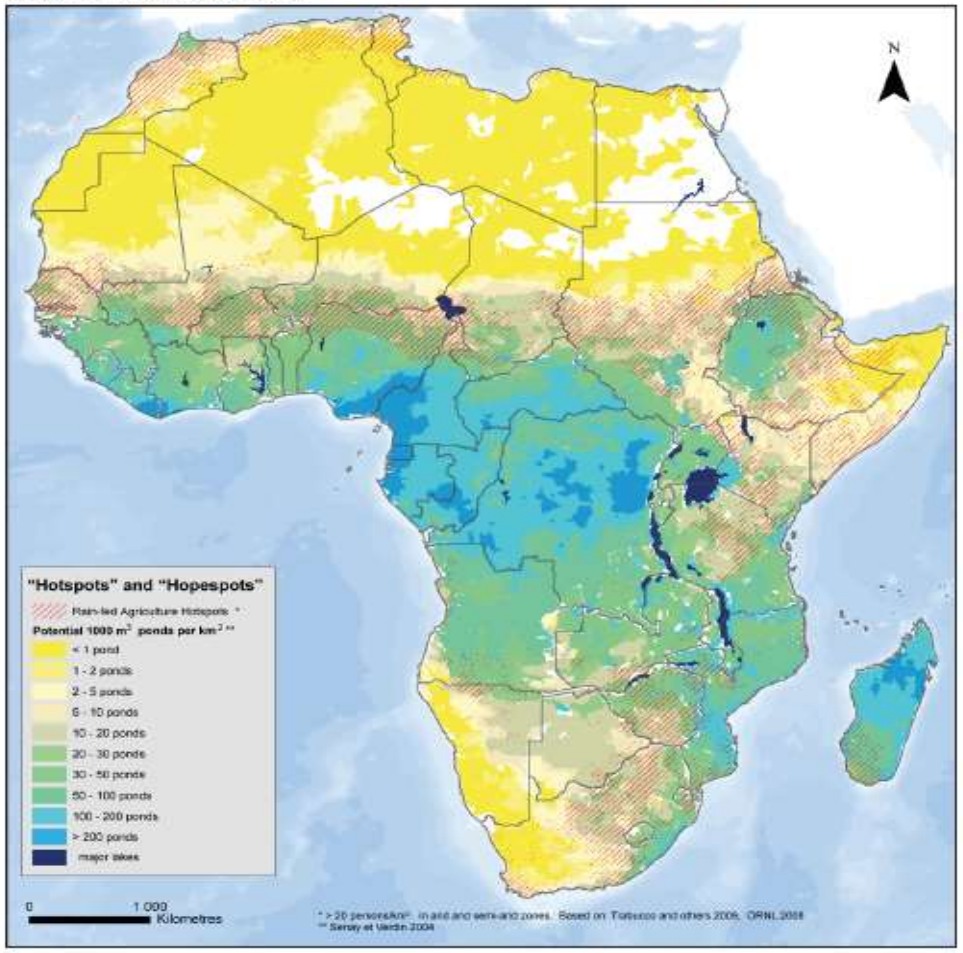
Triple Green Agriculture

-green water

- productivity incr.

- environmental attention

Figure II: Areas of population density greater than 20 persons per km² that coincide with arid and semi-arid zones are potential hotspots of vulnerability for water-constrained rain-fed agriculture (red hatch marks). Many of these areas have adequate runoff for filling small farm ponds, which can reduce vulnerability and improve food security (Sensy and Verdin 2004)



Water for biomass production in drylands

- **two other examples:**

  ***droughts and desertification**

  GREAT GRAND WALL IN SAHARA AND SAHEL

  ***unsustainable groundwater irrigation**

  water decoupling

How relevant for sustainable development?

- **SDG 2 Hunger alleviation**

  ***targets**

  focus on ”agricultural production”

  ***water taken for granted**

  ***in reality**

  severe water shortage in view:

  ***green water/unreliable rain**

  ***blue water/most savanna runoff evaporates before reaching a river**

  ***blue water/rapidly increasing water crowding**

SDG 2-water blindness disastrous

- **hunger alleviation crucial for whole SDG endeavour**
- **30 % of savanna population undernourished**
- **population doubling in only 20-30 years**
- **green water is an essential water resource in drylands**

→ shift in thinking is crucial

Scale tremendous but time short

- **continental-scale challenge:**
  - **hunger alleviation**
- **adequate reponse has to include**
  - * **African Green Water Initiative**

    to gather expertise
  - * **Water Harvesting Investment Fund**

    to handle economy, open for investment

Conclusions

- **shift in thinking essential**

  - water is base for soc-econ development in dryland regions

  - two appearances

  green * locally infiltrated rain

  *** base for biomass production**

  blue *regional

  ***has to be shared**

  ***increasing water crowding**

THANK YOU!