THE TECHNOLOGY ADVANTAGE

6 December 2018 18:30 - 20:00
Bug Room, COP24 official side event

Next generation technologies to tackle climate challenges in agriculture

Organizing Partners

CGIAR RESEARCH PROGRAM ON Climate Change, Agriculture and Food Security CCAFS

CIP INTERNATIONAL POTATO CENTER A CGIAR RESEARCH CENTER

CGIAR RESEARCH PROGRAM ON Roots, Tubers and Bananas

ICARDA Science for resilient livelihoods in dry areas

WORLD ECONOMIC FORUM COMMITTED TO IMPROVING THE STATE OF THE WORLD

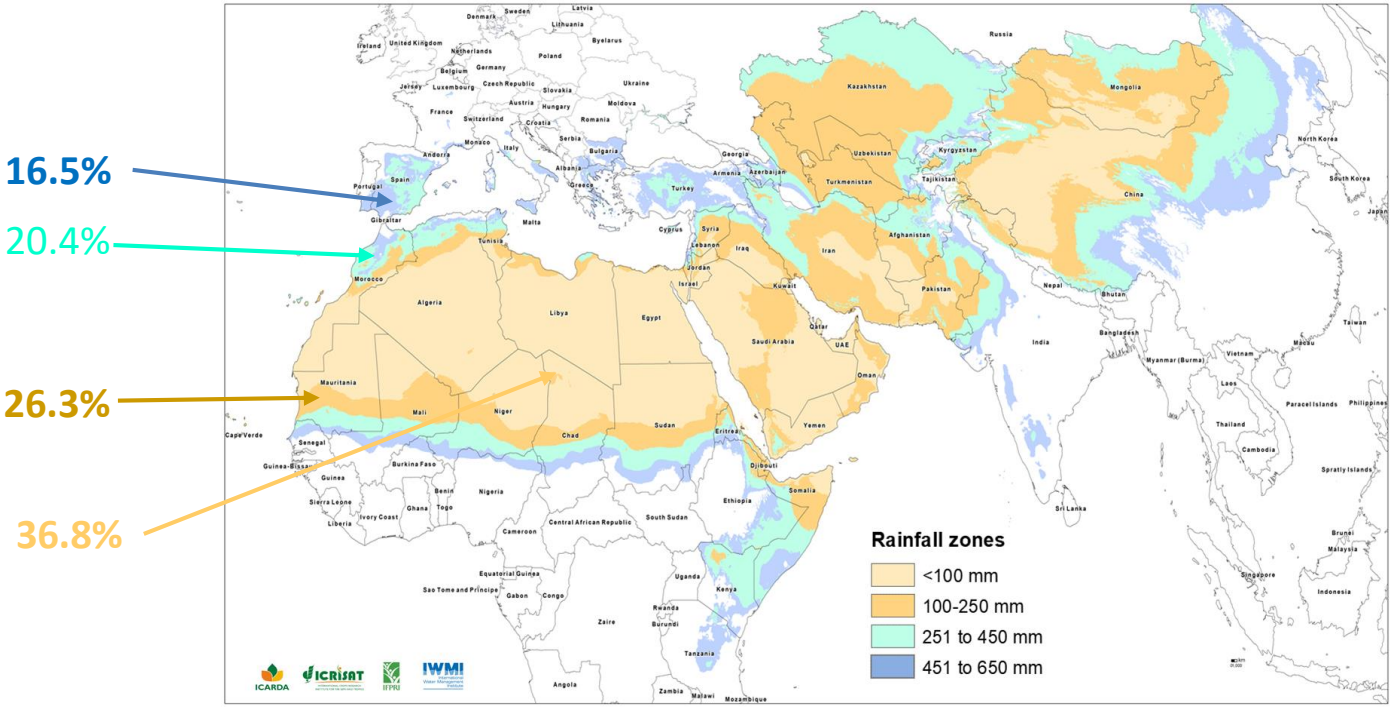
COMBINING CROP ROTATION, CROP IMPROVEMENT AND NEW TECHNOLOGIES IN THE DESIGN OF CLIMATE-SMART CEREAL PRODUCTION IN THE DRYLANDS

Jacques WERY

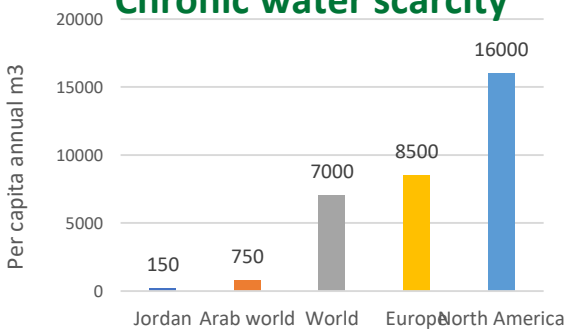
DDG-R ICARDA

ICARDA

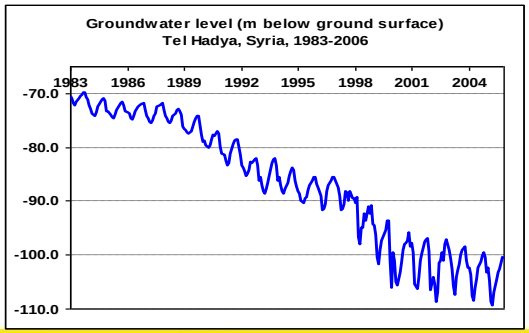
The Dry Areas are big looser of Climate Change



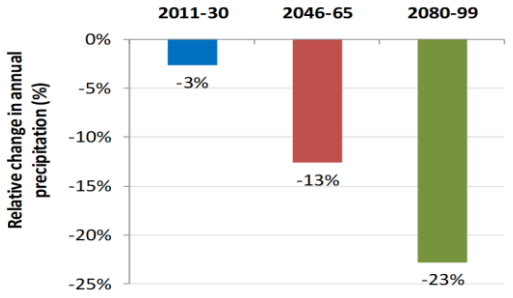
Chronic water scarcity



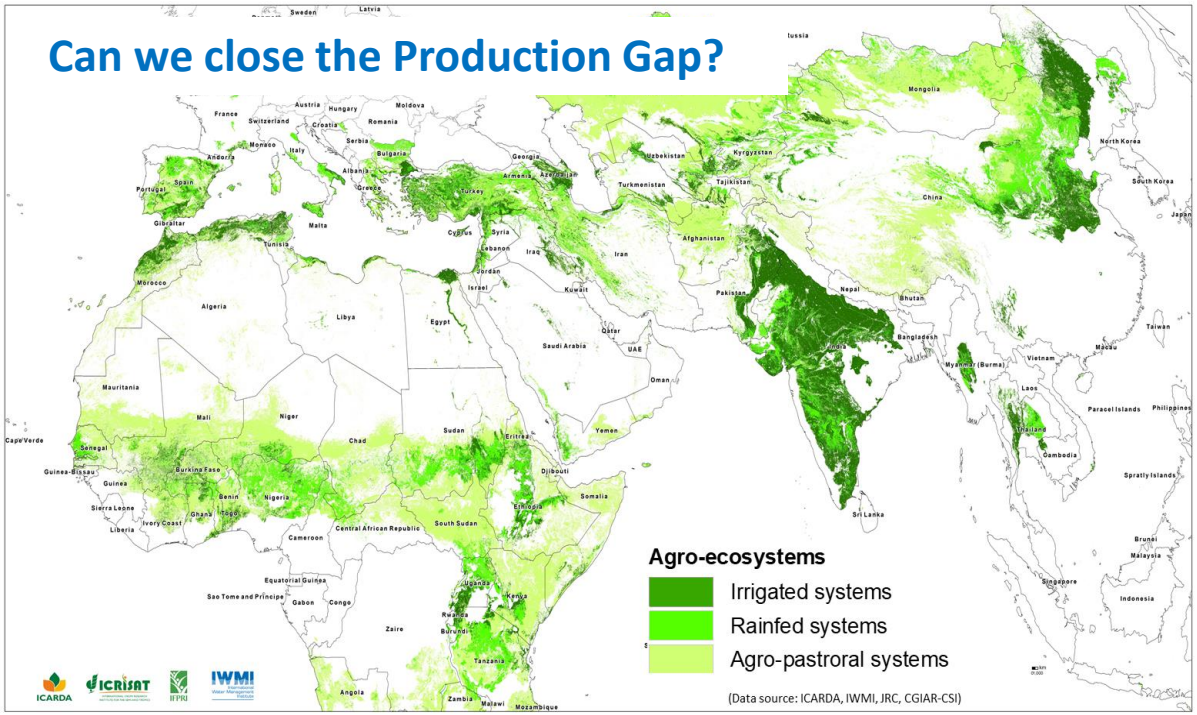
Water resources in danger



Drier, Warmer and more Variable



Crop and food systems are and will remain driven by cereal production (especially wheat).



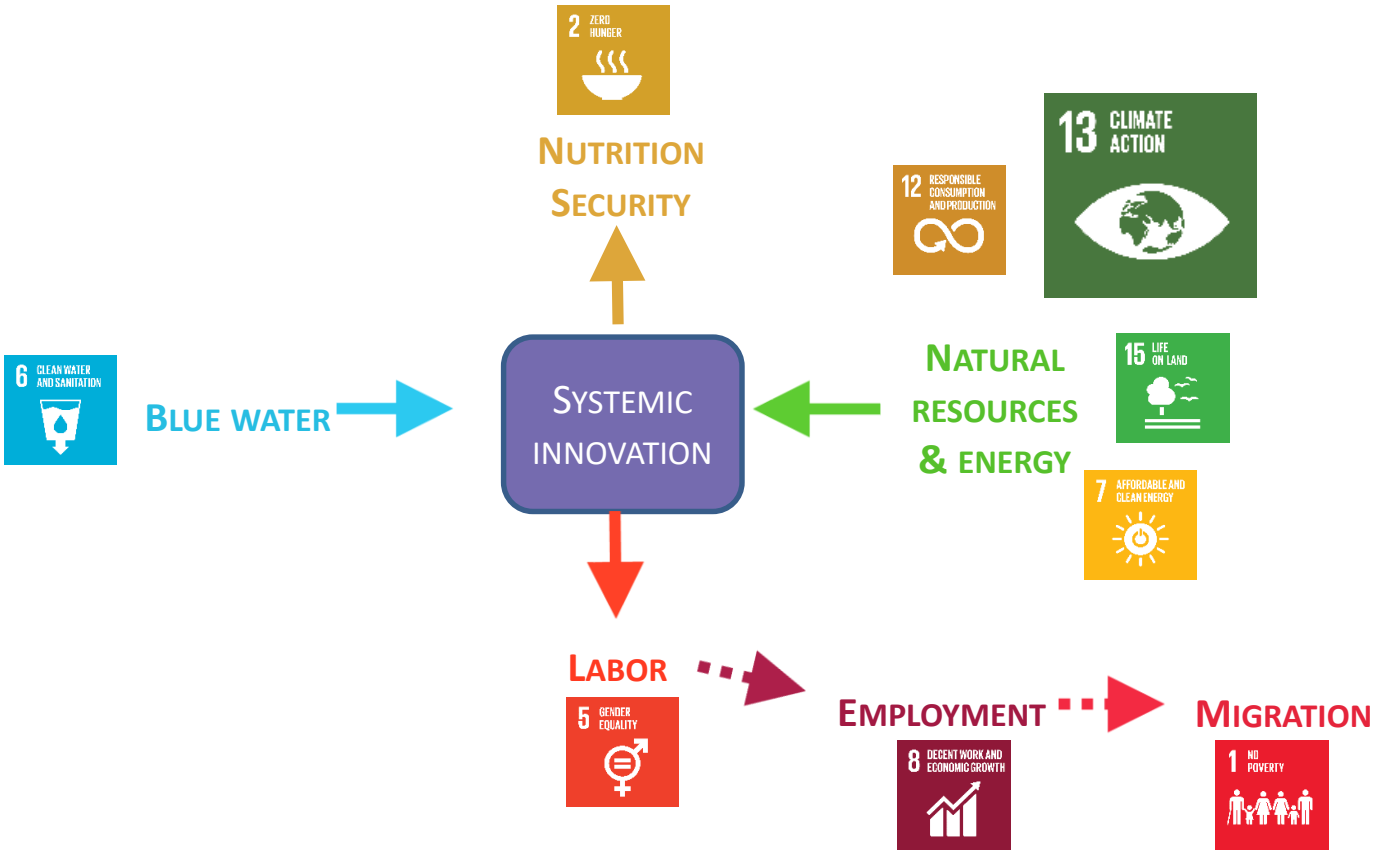
30 % of the 22 millions ha of Wheat in MENA are irrigated

How does technology enhance sustainability of wheat-based agrifood systems ?

Breeding for Yield, Heat, Pests and Disease

Policies

Biotechnical innovations need to be assessed in a nexus …



… and combined with the proper policies and markets.

We already have Climate Smart Crops for the Drylands

Bread Wheat

Faba bean

Durum Wheat

Chickpea

Barley

Lentils

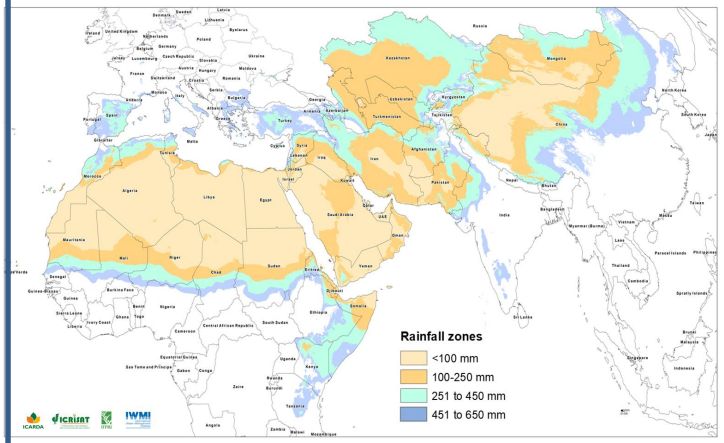
Rainfed

mm

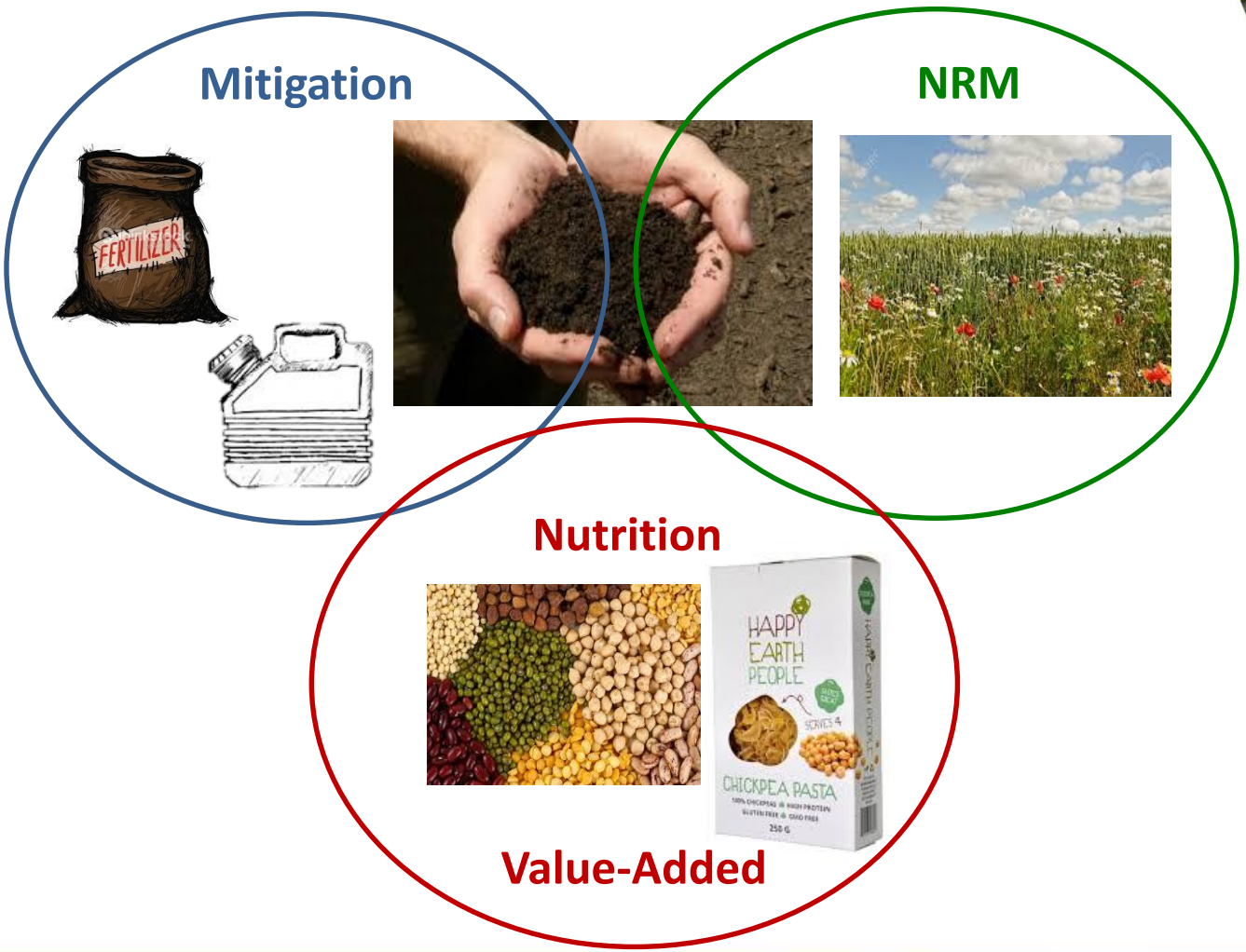
450

250

100



Production Gap of cereals will not be “sustainably closed” without food and forage legumes in rotations.



Technologies and Institutions for “de-risking” rainfed sustainable intensification

- **Traditional Rainfed**

  → low input → no economic loss in dry years

  → no gain in wet years

- **Irrigated Intensified**

  → low production gap every year

  → not sustainable under climate change

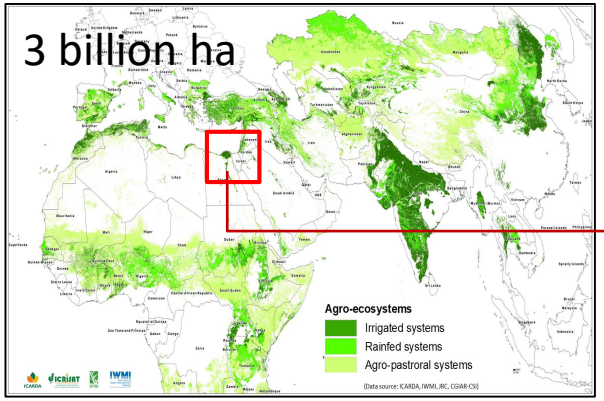
- **Adaptive Rainfed Cropping**

  → Management and rotations adapted to soil and rainfall of the year and markets

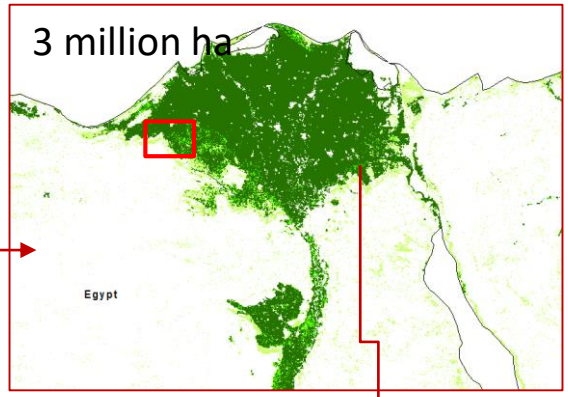
  → Need more knowledge (bio-physical and socio-economical)

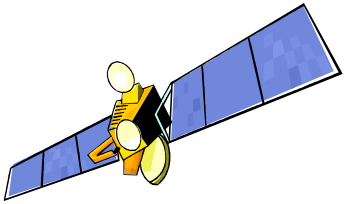
Multi-scale Knowledge on Climate variability (spatial and temporal) and Crop Responses (yield, water, soil carbon, pests-diseases…)

International Agencies



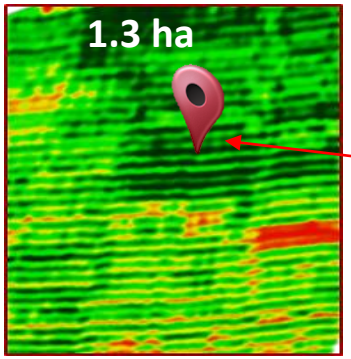
Governments



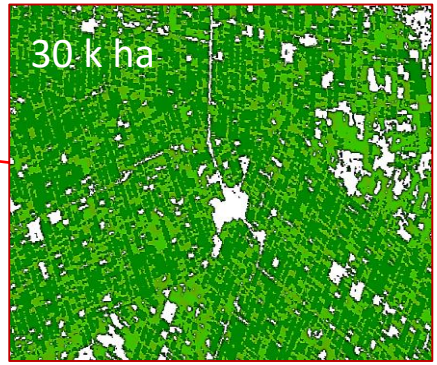


$2 > -3 \quad \infty \quad +_{-}$
$0.999\ldots = 1 \quad \pi \approx 3.14 \quad \times \div$
$\sqrt{2} \quad 1 + 2 \cdot 3 \quad 5^2$
$5(2+2) \quad (1-2)+3$
$101_2 = 5_{10}$

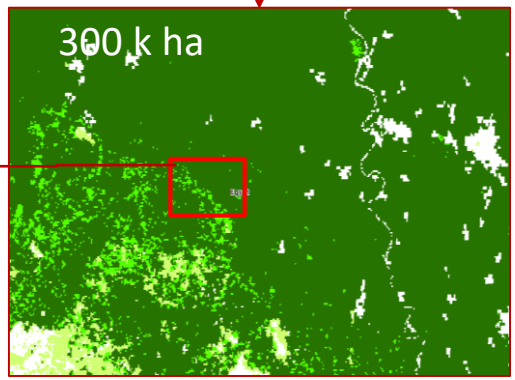
Farmers



Advisors



Agro-Food industry



Towards a New CGIAR Interface to support Research and Development Investments in the Drylands

Innovations

CGIAR

Enabling Context

Climate Change

CCAFS

ICARDA

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INTERNATIONAL CROPS RESEARCH INSTITUTE FOR THE SEMI-ARID TROPICS

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International Water Management Institute

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