

# Partnerships change the way science impacts on development

## The CGIAR Challenge Program on Water and Food



Alain VIDAL, CPWF Director

# The Water Crisis in context



**2-5L**

Daily



**20-500L**

Daily



**500-3000L**

Per Kg

**Vegetarian diet uses 2000 L/day - OR - Grain-fed meat diet 5000 L/day**

# The water productivity challenge

Do we have enough water resources to grow enough food and meet future demand for biofuels?

**No... with today's practices, doubling food production in 2050 would require to almost double agricultural water use**

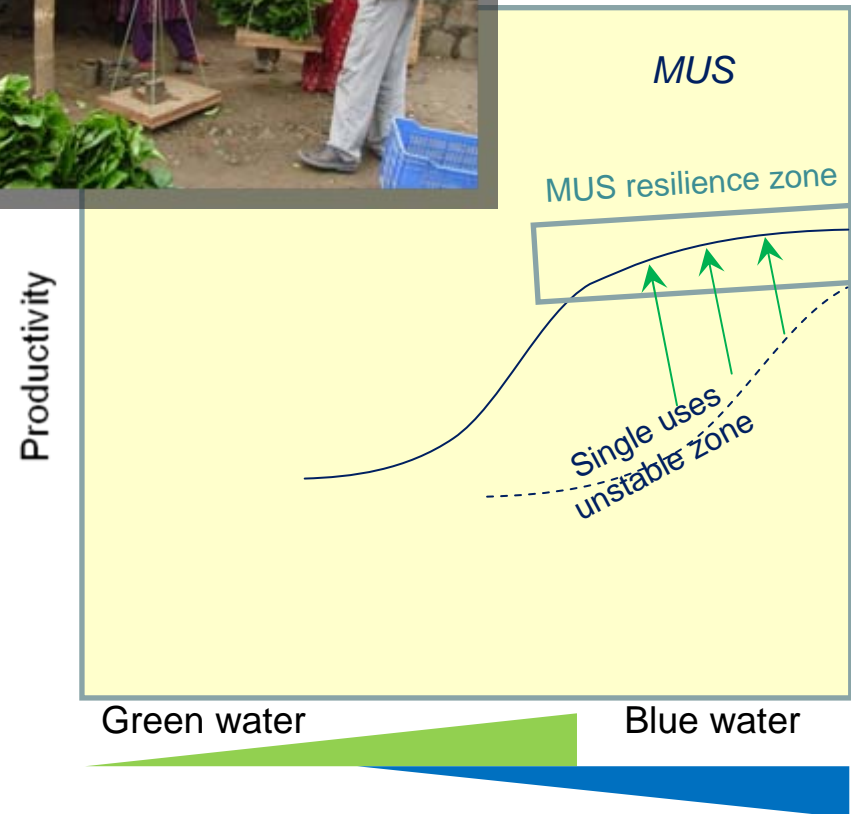
**> ...Unless *we change the way we think and act on water issues***

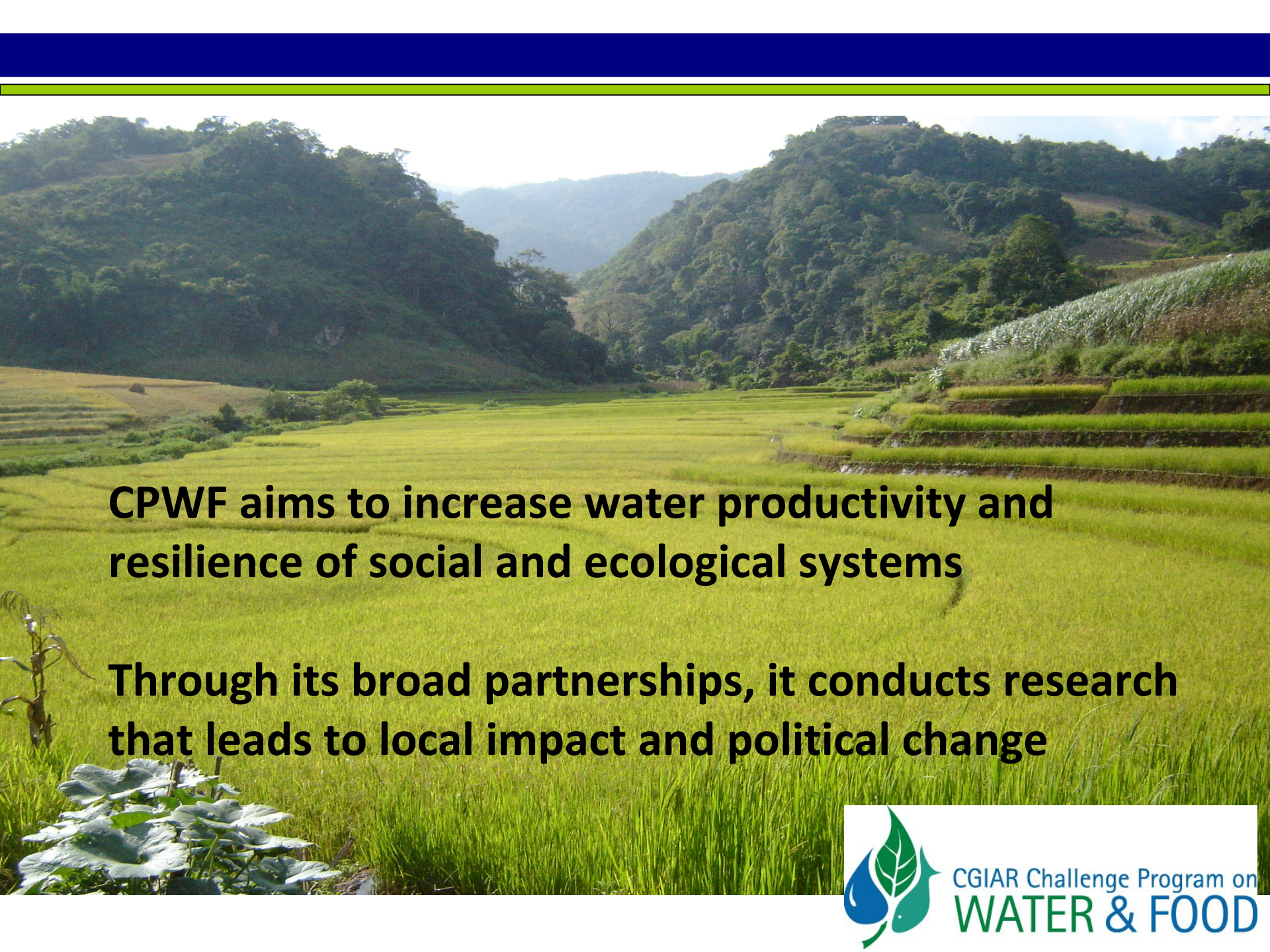
*A simple and ideal scenario: if we would double the amount of food produced per m<sup>3</sup> of water, we would be safe*

# The resilience challenge

Not only should **water productivity** be increased...

➤ ...but communities and ecosystems producing food should be able to cope with global changes (climate, economy, demography, migrations...), ie **become more resilient** (persistent, adaptable, transformable)





**CPWF aims to increase water productivity and resilience of social and ecological systems**

**Through its broad partnerships, it conducts research that leads to local impact and political change**

# CPWF contributes to...



**Food security** at household level

**Livelihoods** of the poor

**Health:** nutrition, reduced pollution, reduced disease

**Environment:** water quality, sustainability of wetlands

# CGIAR Challenge Program on Water and Food (CPWF)

A reform program of the Consultative Group on International Agricultural Research (CGIAR)

Joint venture among 18 partners

70 research and capacity building projects, as a means to induce integration and broader partnership

Over 200 partners, with research in 30 developing countries of 10 river basins

Around USD 65 million of investment from 12 donors in 2004-08

Second phase 2009-2013; program due to finish 2018



# How do partnerships change the way science impacts on development

Review from 3 R for D projects





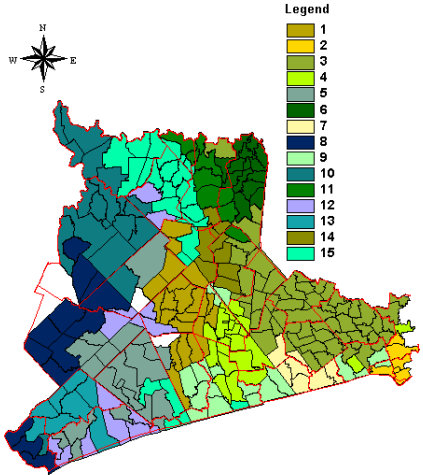
# Coastal resource management (Mekong Delta, Vietnam)



Farmer adoption of diverse rice-shrimp-fish production systems



Zonal sluice gate management allows brackish or fresh water at different times of year



Provincial government recognized brackish water as a resource; promoted new systems

# Coastal resource management (Mekong Delta, Vietnam)

**Change from business as usual:** Plant science, hydrology and development working together; ideas move to other river basins

**Social resilience:** Several diverse livelihood options adapted to each zone and time of year

**Ecological resilience:** Halt conversion of mangroves to shrimp farms; diverse aquatic organisms in rice fields

**Biophysical resilience:** Rice double cropping buffers climate variation; rotation reduces shrimp disease



# Livestock water productivity (Uganda “Cattle Corridor”)



Termites destroy any attempt to reseed degraded pasture



Community corralling of cattle for 2 weeks permits pasture establishment



Local organizations invest in up-scaling of pasture regeneration

# Livestock water productivity (Uganda “Cattle Corridor”)

**Change from business as usual:** National and international researchers had equal status; Highly motivated University animal science department took broad systems view

**Social resilience:** Livelihoods stabilized through pasture regeneration and addition of cropping opportunities

**Ecological resilience:** Reclaimed pastures improve water infiltration and storage, decrease erosion

**Biophysical resilience:** Improved land and water management buffers against future shocks



# Multiple use water systems (8 countries, 5 river basins)



Individual multiple water-use decisions



Local government, NGO, CBO and private support to innovation



Support of national water policies and laws (eg India)

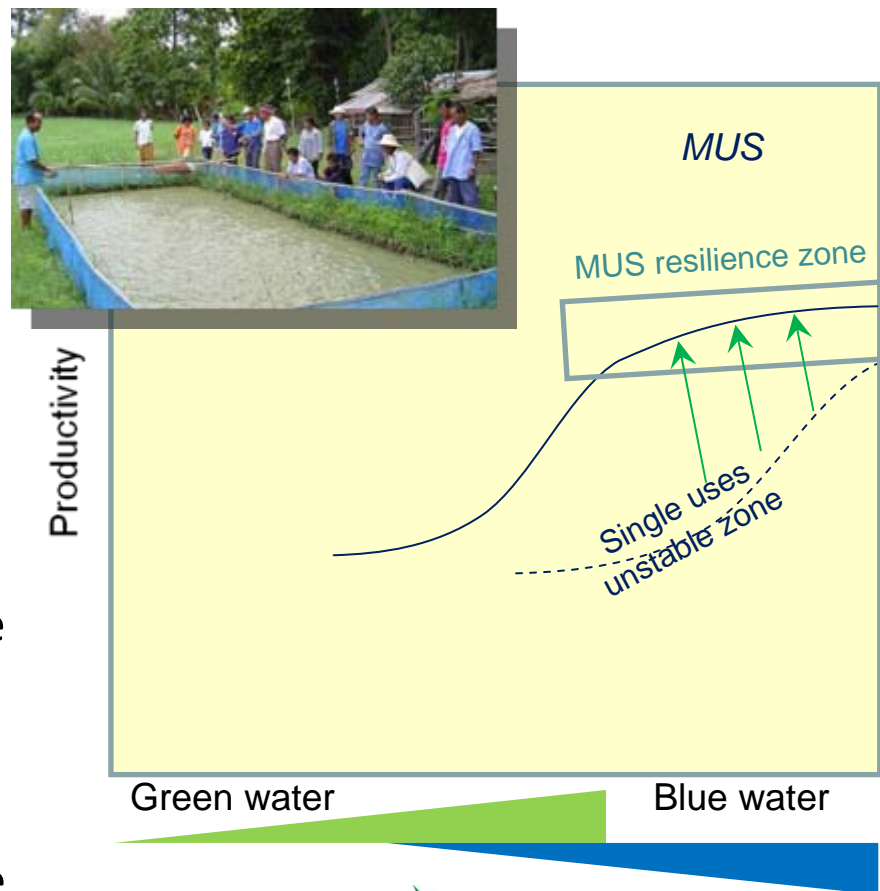
# Multiple use water systems (8 countries, 5 river basins)

**Change from business as usual:** Wide range of experiences gave global legitimacy to the multiple water-use approach

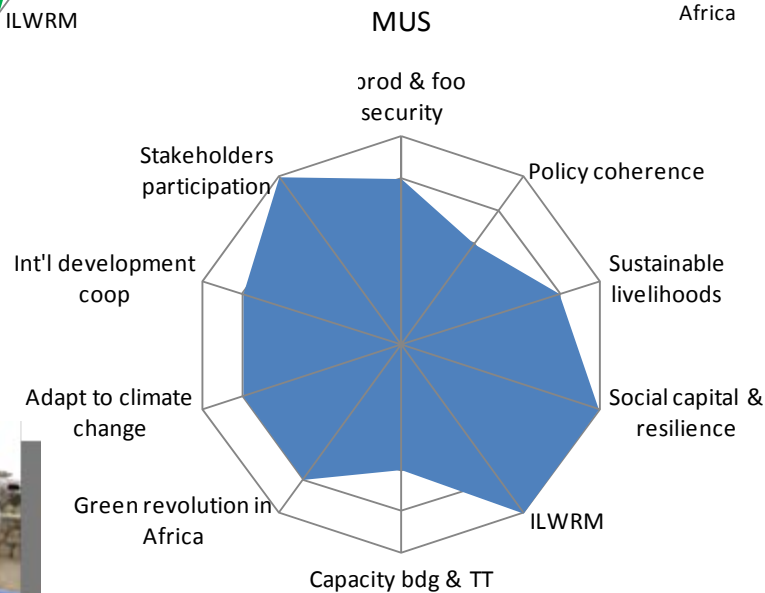
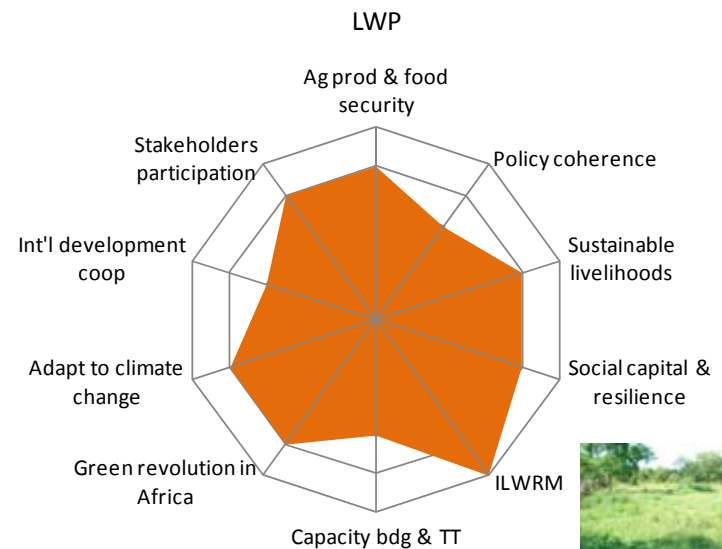
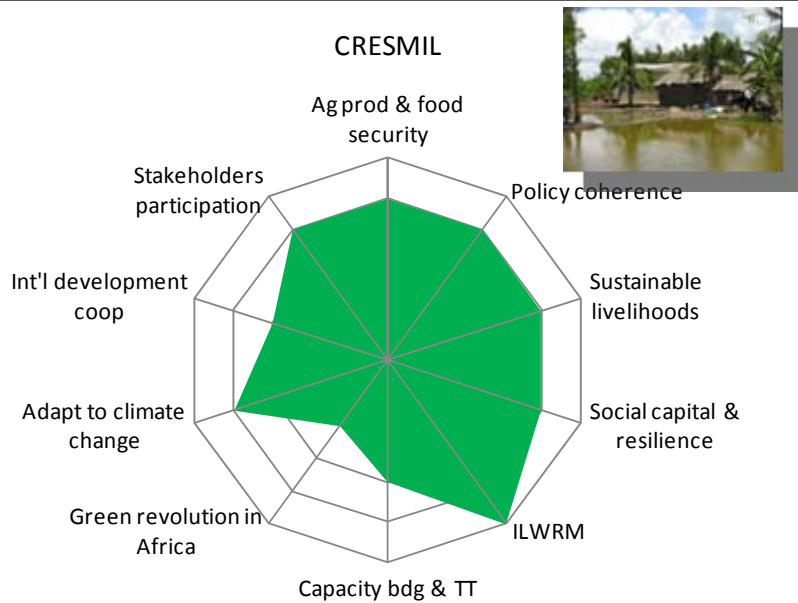
**Social resilience:** Even with a single water source, households and communities can achieve more through multiple-use

**Ecological resilience:** Multiple use often include wetlands, water re-use, and increase biodiversity

**Biophysical resilience:** Backyard and drip-irrigated crops can be produced where there was no previous opportunity



# How are CSD-17 messages addressed?



# Conclusions: Broad partnerships needed in R for D

Research for development efforts should ideally have partners “from plot to policy making”

➤ Three or more institutional scales needed, good for novelty and diversity of outputs, “scaling-up” and “scaling-out”

Changes at one system level are the key that unlocks the other levels

Echoes the resilience literature: linking of three or more system levels is important for success





# Partnership recommendations for CSD-17

Include at least three institutional levels in any R for D effort to get an effective response to the ten CSD-17 criteria



The radar diagrams evaluation would be an effective visual evaluation of the 10 criteria for any effort

# Thank you

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