



Alliance



From Fragility to Resilience in Central and West Asia and North Africa (F2R-CWANA)

WP 3: Sustainable farming systems intensification for climate resilient decomposition of yield gaps

Inception Workshop – Morocco May 17, 2022

WP Members:

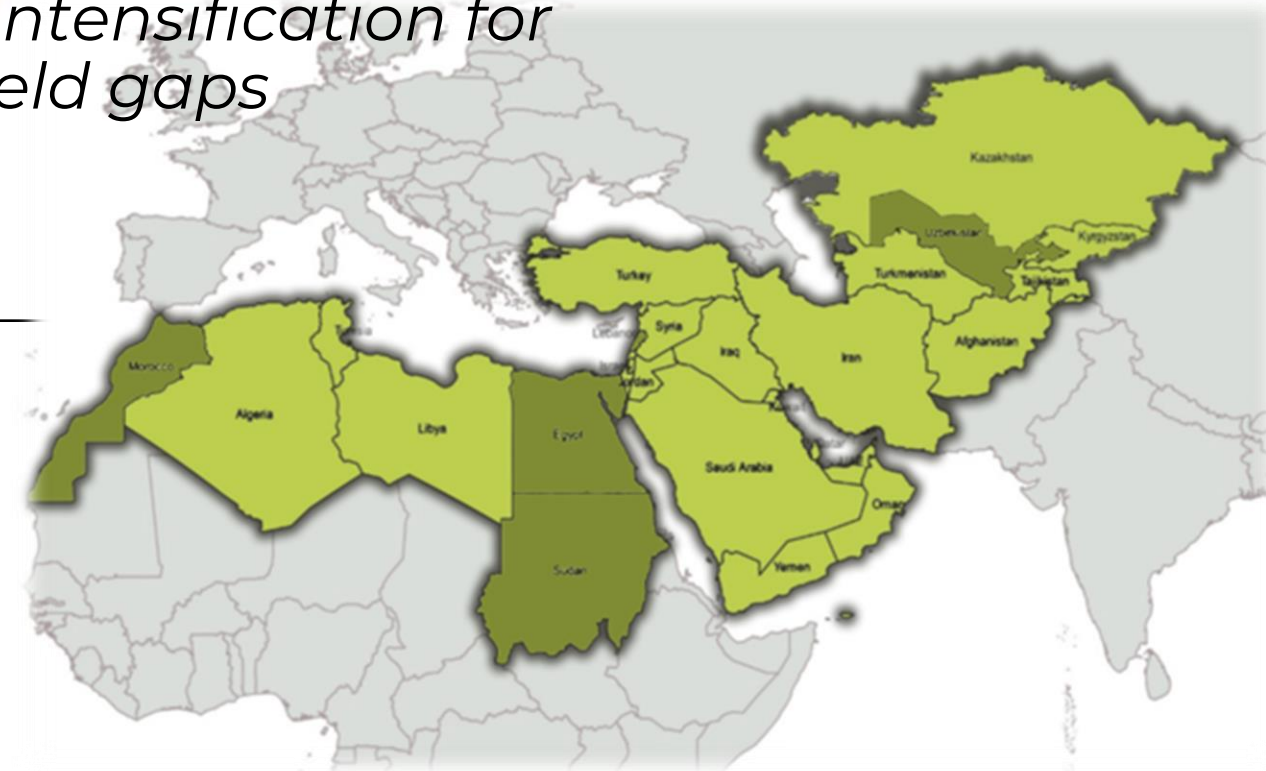
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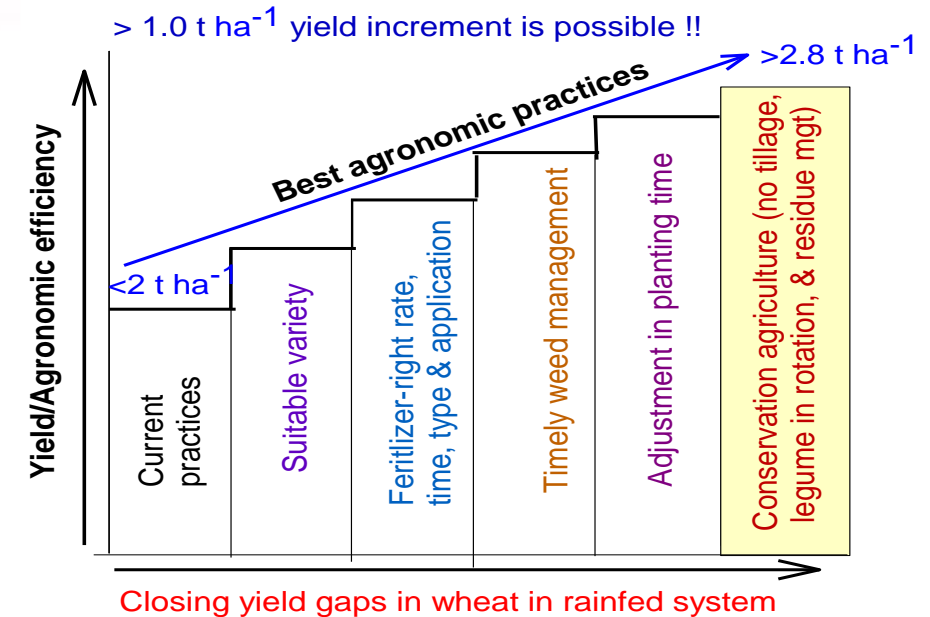
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Challenge: WP level

- **Large yield gaps, poor efficiency of resources, low farm income:** food insecurity and making farming unsustainable and unattractive
 - ✓ Poor on-farm agronomic management practices
 - ✓ lack of system-based solutions (System optimization, GEM, product profiling)
 - ✓ Lack of scale-appropriate farm mechanization
- **Climate Change and climate variability**
- **Land degradation, desertification, erosion, salinity and biodiversity loss**
- **Inclusion and equity challenges of rural youth migration**
- **Insufficient 'last-mile' knowledge and service delivery infrastructure, capacity and enabling policies**

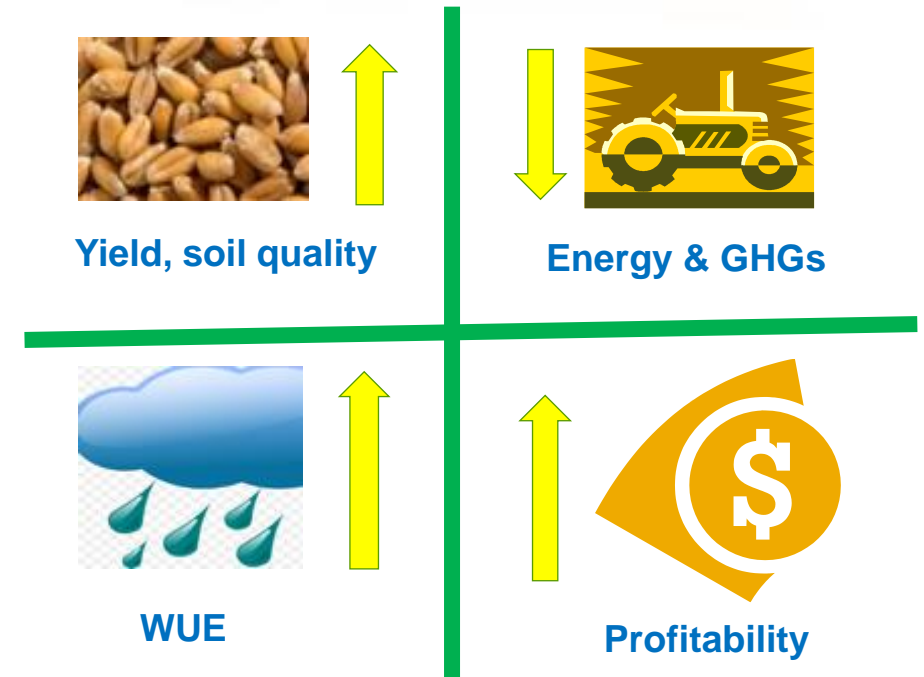


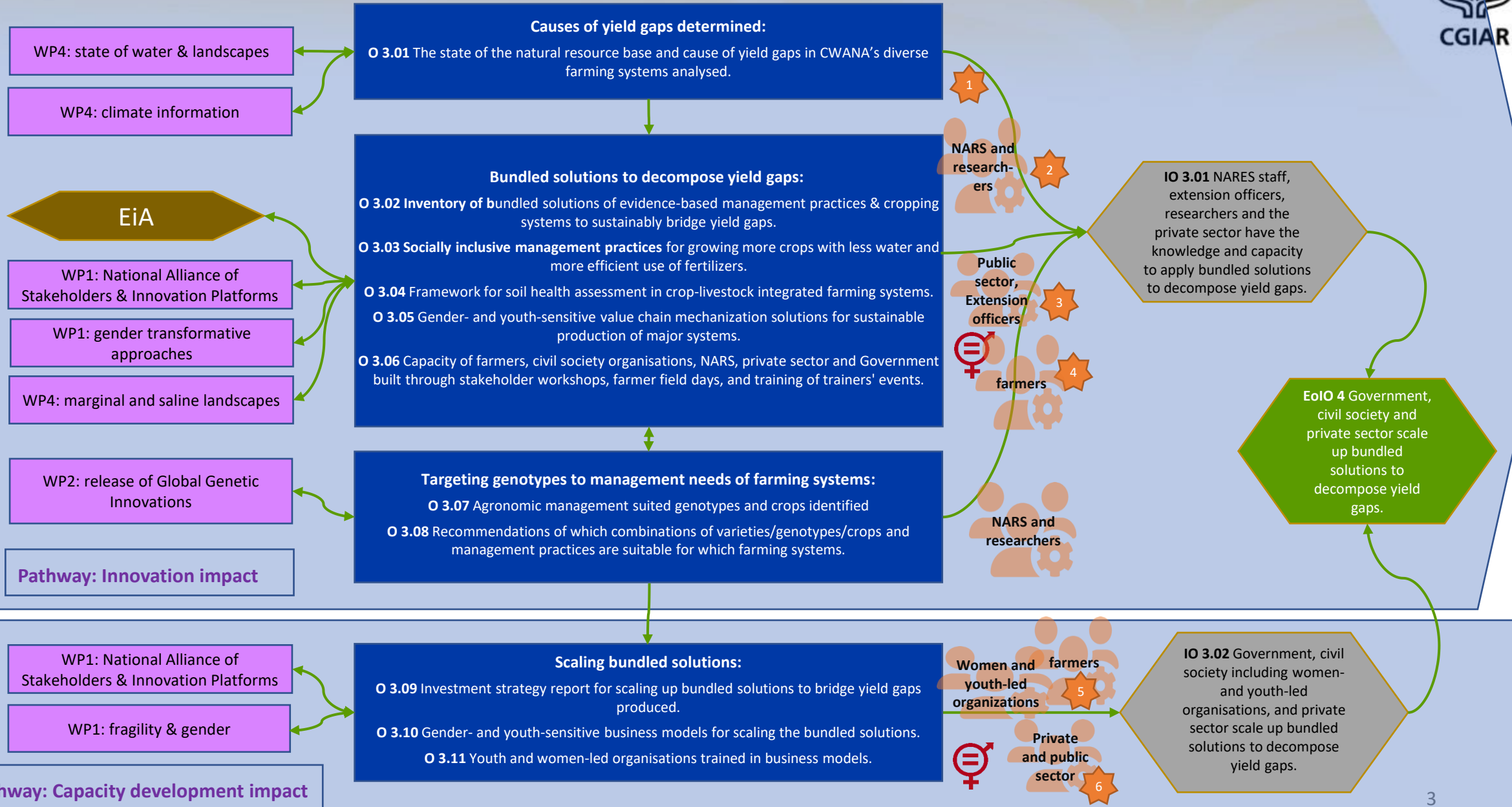
Closing yield gaps in wheat in rainfed system
Devkota and Yigezu (2020), >1900 wheat farmers in Morocco



WP Main Focus and Prioritization

- **Hot-spots and causes of natural resource degradation, climatic variability & yield gaps** (both irrigated and rainfed systems)
- **Generating, mainstreaming and linking locally adapted systemic & resilient (agronomic) bundled solutions** at farm and landscapes scale to decompose yield gaps and increase income within environmental boundaries
 - ✓ Cropping systems optimization (GxExMxS): recommendation domains and product profiling
 - ✓ Conservation Agriculture based Sustainable Intensification and scale appropriate mechanization
 - ✓ Soil health assessment and nutrient management
 - ✓ On-farm water management
 - ✓ Synergies and trade-offs
 - ✓ Environmental footprints
- **Science of scaling:** science evidence backed investment strategy (policy), business models and capacity development





Plan of Results - Morocco



Activities ,	Deliverables	Synergies with WPs	Partners	Scale/location (national, basin level,..)	Synergies CG Initiatives	Timeline			
						2022	2023	2024	2025
Mapping natural resource hot-spots	Report on state of NRs	WP4	INRA, Min.of Envir. CRTS	National	EiA, CLIMBER				
Yield gaps and determinants to close those gaps	Report/science evidence	WP2 & WP5	MoA	National	EiA, CLIMBER				
Inventory and development of bundled agronomic solutions	Report, guideline, peer reviewed article	WP1, WP2	INRA, ONCA	Local/national	EiA				
Mechanization needs and strategies	Report,	WP1, WP5	Machinery supplier, INRA/univ. UM6P	National	EiA				
Framework of soil health assessment	Report	WP1	INRA, APNI	National	EiA				
Developing, testing and validating the sustainable soil, nutrient & water management practices	Report, guideline, tools, peer reviewed article	WP 1, WP 4	INRA, APNI	National	EiA				
G x E x M trials	Data inventory & report, recommendation domains	WP2	INRA, university	National	EiA, EiB				

Plan of Results - Morocco



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Integrated policy approaches for equitable local/regional institutional mechanism and scaling	Report/Policy Brief	WP 1, WP 4	INRA,IAV, ENA, UM6P Universities	National	EiA, CLIMBER				
Strengthening capacity of stakeholders	Training manual, training events	WP 1, 2, 4 & 5	INRA,IAV, ENA, UM6P Universities	National	EiA				

Partners



Activities	Partners	Role
State of Natural resources	National remote sensing agencies	Developing resource maps
Yield gaps decomposition	INRA, university, ONCA	Review on the available literature
Mechanization needs and strategies	INRA, farmers association, machinery suppliers association	Review on mechanization need, stakeholder meeting, roadmap
Implementation of G x E x M	INRA, University	Designing and implementation of field experiments
bundled agronomic solutions	INRA, University	Review on agronomic solution need
Framework of soil health assessment, Nutrient management	INRA, APNI, UM6P	Review on the available literatures
Capacity strengthening for stakeholders	INRA, ONCA, university	Training ToT

Capacity Development Needs

LONG-TERM TRAININGS

- ✓ In partnership with national universities, provide opportunity to post-graduate students to pursue degree research trainings in WP activities

SHORT-TERM TRAININGS

- ✓ For stakeholders such as farmers, extension agents, national researchers and others, conduct short-term training courses to prepare them for methodologies and analyses required for implementation of WP plan of results. These will include training of trainers who will then spread the knowledge to their peers.

VIRTUAL/BLENDED/RECORDED TRAININGS

- ✓ Since it is not efficient to repeat trainings on same topic multiple times, we will use approaches such as webinars, recording of lectures, virtual trainings etc., so several trainees can benefit from the training material.



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CIMMYT
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THANK YOU!