



INITIATIVE ON
Fragility to Resilience in Central
and West Asia and North Africa



International Water
Management Institute



INTERNATIONAL
FOOD POLICY
RESEARCH
INSTITUTE



Alliance



F2R-CWANA

RAFS RII Retreat, Nairobi
Day 1, 1 March 2023

Michael Baum & Maha Al-Zu'bi



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Session 1: Approach to Science for Impact

F2R-CWANA Innovations and Outcomes



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Innovations in partnerships, policies and platforms for agrifood systems transformation



Innovations in partnerships, policies and platforms for agri-food systems transformation



Genetic innovations, seed systems, and agrobiodiversity conservation



Sustainable intensification of farming systems



Integrated food, land, water and energy systems



Scaling innovation and digital tools



Farm to basin smart tools for water efficiency and management

CGIAR Accelerator and Open Innovation Program

The Rural Investment and Policy Analysis Modeling Toolkit

Promoting in-situ conservation of CWANA dryland agrobiodiversity

Participatory Product Profile Performances

Weather station-based irrigation advisory system

Innovations

Toolbox of Nature-based Solutions for people and planet

Resilient food and feed crops adapted to MENA region

Scale-appropriate mechanization for CWANA

In 2030:

use Best Bet Genetic and Agronomic Innovations developed for CWANA.

Farmers

adopt best practices for the on-farm conservation of agrobiodiversity.

Government, civil society, private sector and INGOs

work together to create efficient, inclusive and resilient national agri-food systems.

scale up innovations and digital tools for food value chain climate risk management.

work together to scale up bundled solutions to bridge yield gaps.

practice integrated management of food, land, water, and energy systems.

Collaboration with other Initiatives in 2022



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Accelerated Breeding (ABI):

- Barley, Kabuli chickpea, faba bean, forage legumes, grass pea, lentils, and wheat breeding with CWANA NARES.
- Regional NARES DGs meeting to define breeding priorities from now to 2030.
- Prioritisation of breeding Product Profiles for regional crops.

Seed Equal:

- Prioritisation of newly released varieties of regional crops for demand creation & planting of demonstration plots.
- Seed system analysis, varietal adoption and impact in Egypt.

Genebanks:

- Agrobiodiversity in-situ & ex-situ conservation

training.

Excellence in Agronomy (EiA):

- Morocco Use Case – mapping natural resources.
- Egypt Use Cases – mapping natural resources.

NEXUS Gains:

- Global Food Policy Report 2022: Climate Change & Food Systems – Regional Developments in Central Asia.

ClimBer:

- Climate security in the MENA region.
- Web-app to extract climate data.

Livestock and Climate (LCSR):

- Cactus pear scaling.

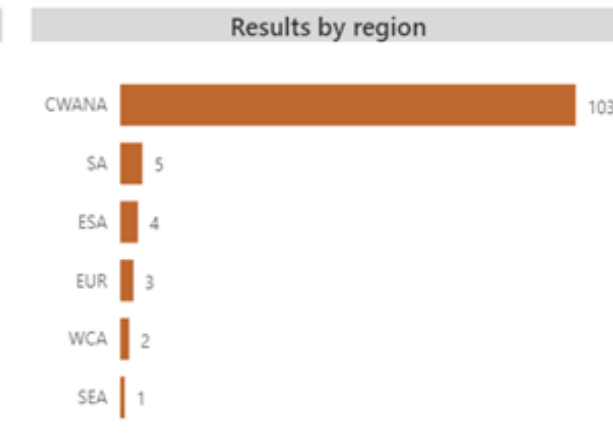
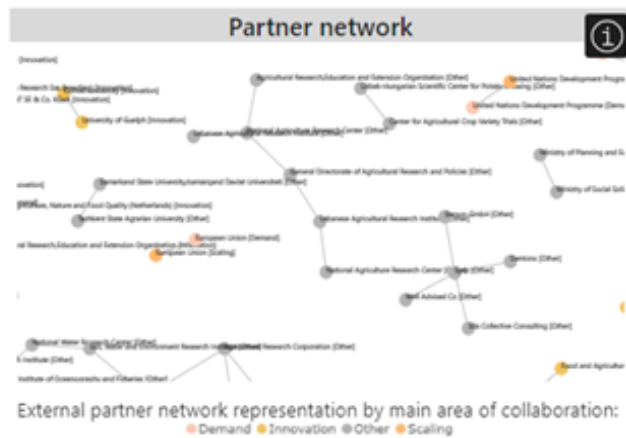
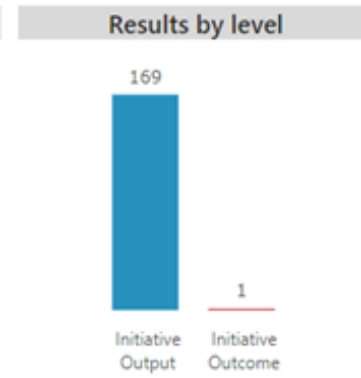
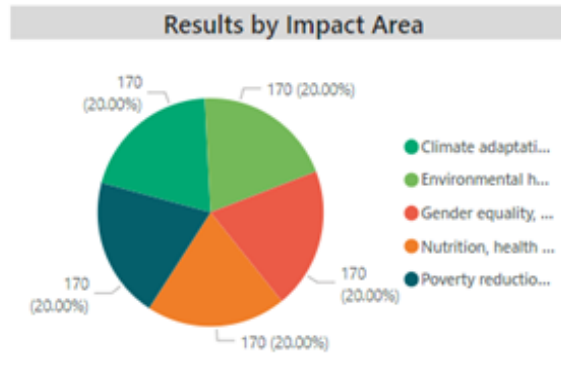
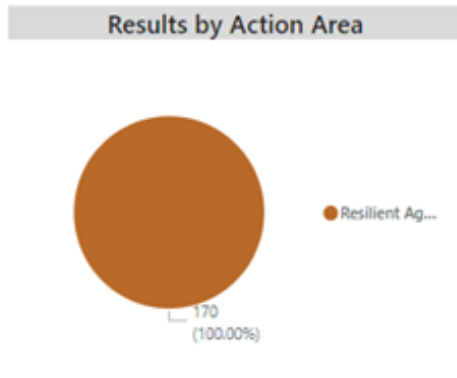
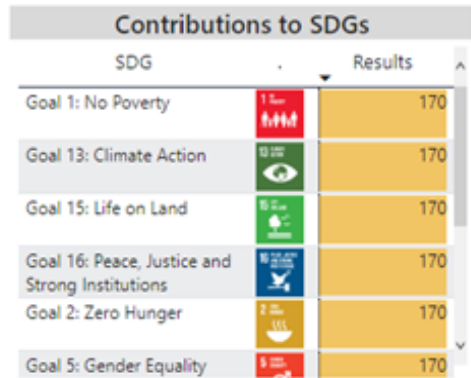
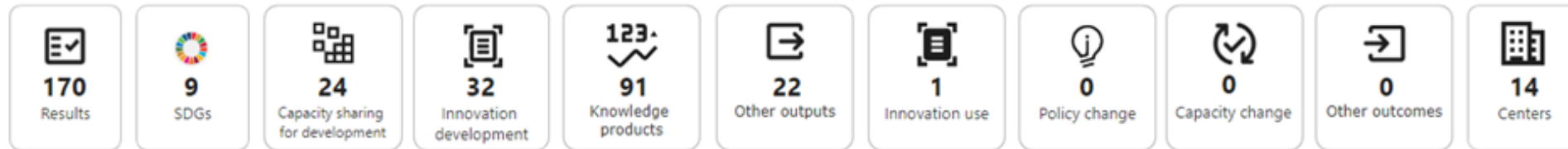
First years' results



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[Feedback Form](#)

Result level 1 **Indicator category** **Linked to previous portfolio?** 1
 All All All



First years' results



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Gender and Climate Tags

The Gender tag and Climate tag are the score assigned by each initiative to the reported result

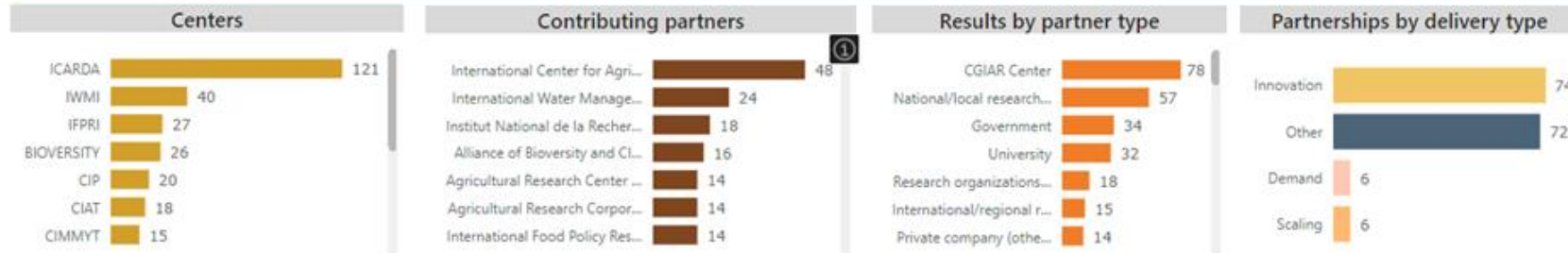


OECD DAC markers

The OECD DAC markers score refers to the OECD DAC Rio Markers for Climate that can be consulted [here](#), this scoring covers the whole Initiative.



Contributors



Result detail

Export data

For evidence, only links that lead to CGSpace are included. If you would like to view additional evidence that is unavailable here, please contact performanceandresults@cgiar.org.

Indicator Category	Title	Contributing Initiatives	Contributing Centers	Evidence		
				1	2	3
Other output	Expert Workshop of Integrated Agriculture-Aquaculture systems (IAAS) in Arid areas, Egypt	Fragility to Resilience in Central and West Asia and North Africa	• WorldFish	🔗		
Knowledge product	A new index on agricultural land greenhouse gas emissions in Africa	Fragility to Resilience in Central and West Asia and North Africa	• IWMI	🔗		
Knowledge product	Accountability and Transparency through Water-Energy-Food Nexus Accounting in Central Asia	Fragility to Resilience in Central and West Asia and North Africa	• IWMI	🔗		
Knowledge product	Assessment of crop evapotranspiration and deep percolation in a commercial irrigated citrus orchard under semi-arid climate: combined Eddy-Covariance measurement and soil water balance...	Fragility to Resilience in Central and West Asia and North Africa	• IWMI	🔗		

The Innovation Platforms (IP) of CWANA



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Merchouch, Morocco



Karshi, Uzbekistan



Wad Medani, Sudan



National Alliance of Stakeholders



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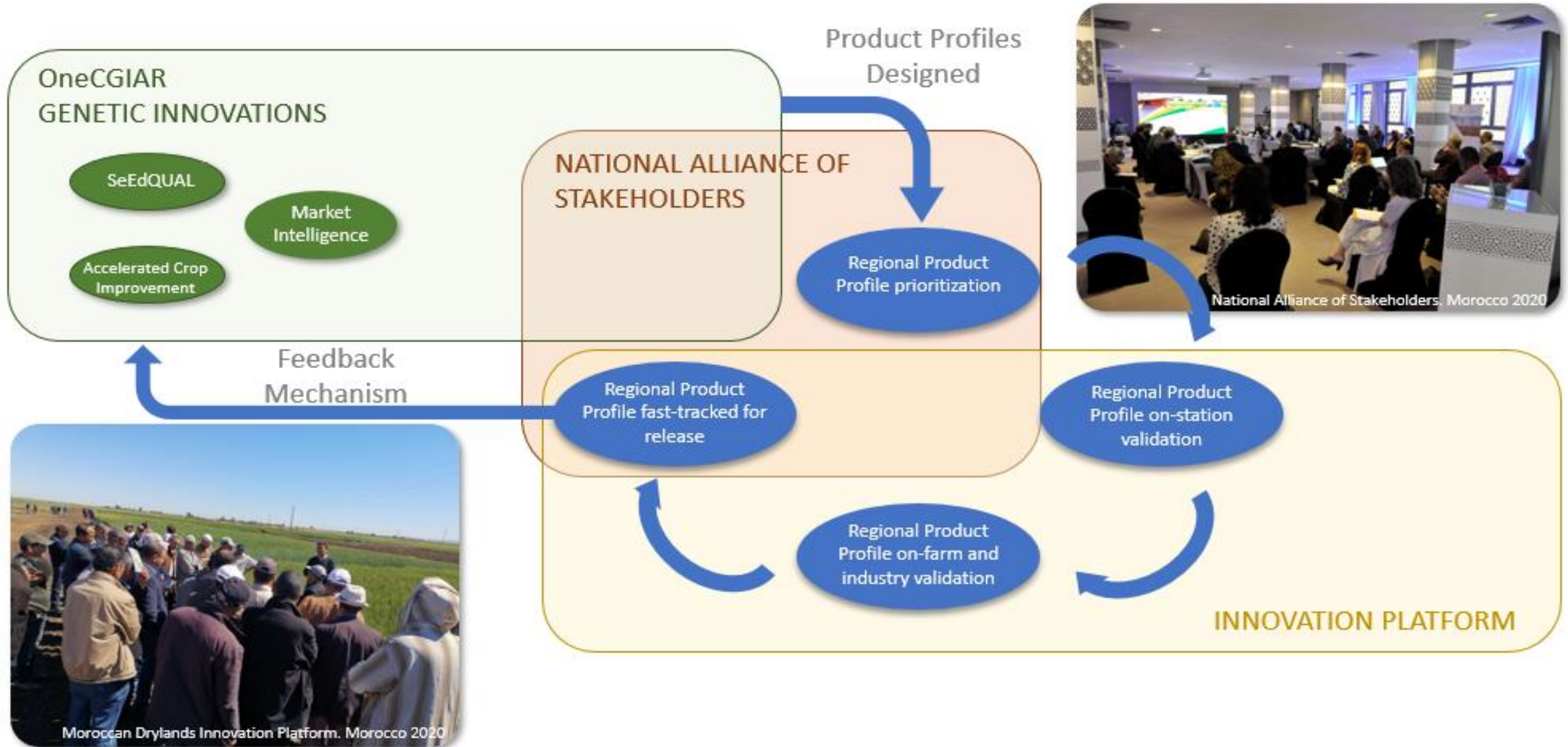
- Guide the prioritization of innovations
 - Alignment to national vision
 - Identified gaps between public-private breeding and seed business
 - Proposed strategic solutions
 - Identified key revisions needed to the catalogue system



WP2 – Participatory Product Profile Performances



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ICARDA and INRA-Morocco will both participate at the next edition of the Agricultural Fair SIAM in Meknes: <https://www.salon-agriculture.ma/en/>

During this event, we have agreed that it would be strategic to held an “Alliance Meeting” with Moroccan stakeholders to:

- Present research achievements
- Guide the research agenda



Pathways to Increase RII's Science Relevance and Quality



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NARES consultation to plan breeding priorities till 2030



- **Aide Memoire** defining country priorities
 - Establishing *win-win partnership for joint trials (no IN)*
 - Need to train and co-fund **projects** for success
 - Keep **linkages** ??? with private sector

Top four country priorities (●) for crop breeding and secondary priorities (○)



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Country	Lentil	Kabuli chickpea	Barley	Bread wheat	Durum wheat	Faba bean	Grass pea
Algeria	●	○	●	●	●	-	-
Azerbaijan	●	●	●	●	○	-	○
I.R. Iran	●	●	●	○	○	●	-
India	●	●	●	-	●	○	○
Jordan	●	○	●	●	●	○	○
Lebanon	○	●	●	●	●	○	○
Morocco	○	○	●	●	●	●	-
Palestine	●	●	○	○	●	●	-
Sudan	●	●	○	●	○	●	-
Syrian Arab Republic	○	●	●	●	●	○	-
Tunisia	●	○	●	●	●	○	○
Turkey	●	●	●	●	○	-	-
Uzbekistan	●	●	○	●	●	○	-

Promising Public-Private Partnership for fast-track seed multiplication and scaling of wheat varieties in Morocco



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Vision: General-win integrated wheat seed system in Morocco

Approach: Dynamic partnership, including ICARDA-JLIBENE CONSULTING-SEPT EPIS-BENCHAIB SEMENCES-Farmers and Private Mills.

- ICARDA providing improved germplasm with efficiency and time saving, and Jlibene Consulting identifying relevant genotypes for production and milling industries;
- A private 20 ha platform of research and early-stages-seed increase, at Berrechid, with supplemental irrigation facility and off-season planting, fully equipped, managed by BENCHAIIB SEMENCE and operated by Jlibene Consulting;
- Developing partnership with INRA for early generation production of G1 and G2 seeds, SONACOM millers for quality testing.



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In collaboration with INRA and other partners, INRA and ICARDA is organizing 3rd African Conservation Agriculture Congress <https://africacacongress.org/> in Rabat, Morocco in 5-8 June 2023

3 ACCA
THIRD AFRICA CONGRESS ON
CONSERVATION AGRICULTURE
5-8 June 2023 | Rabat, Morocco



Theme: Building a Resilient Future in Africa through Conservation Agriculture and Sustainable Mechanization

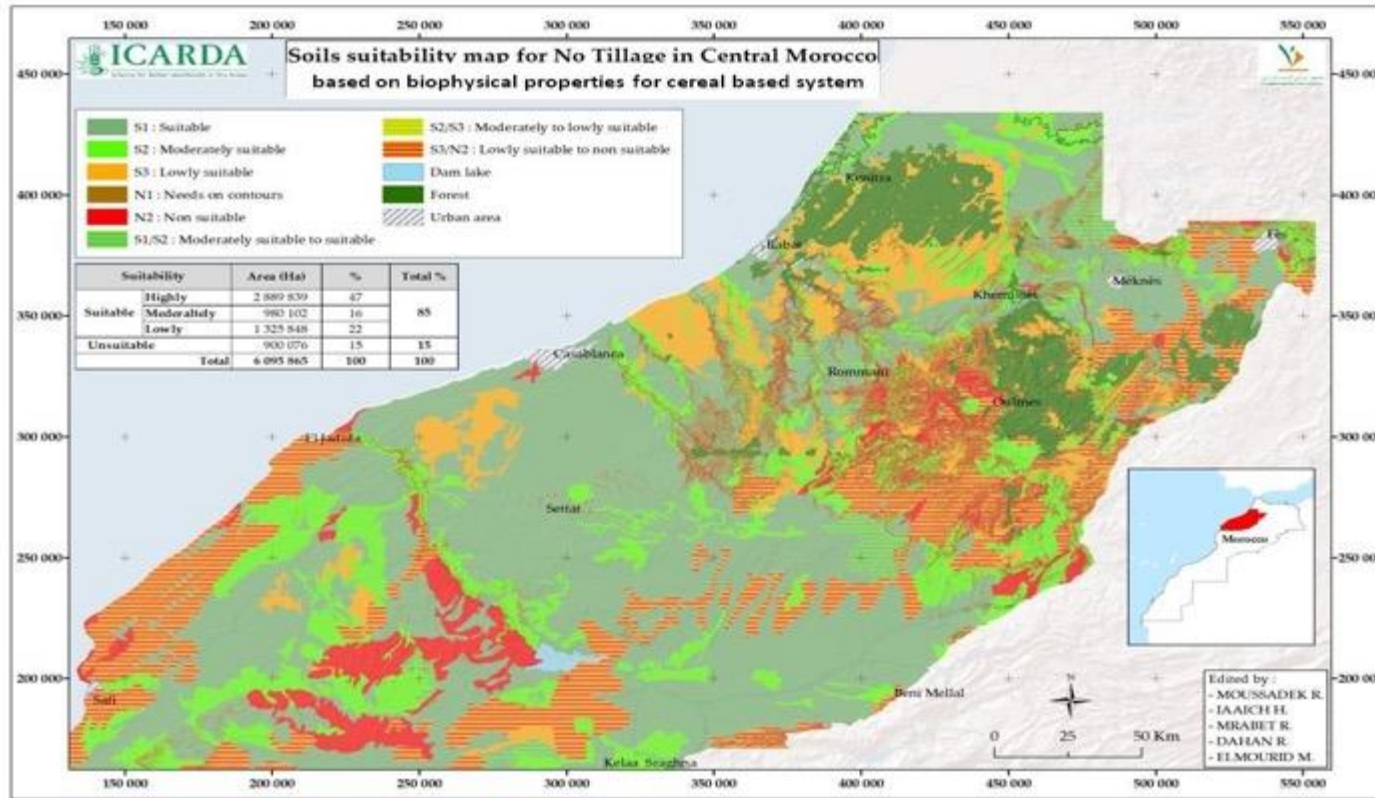
Organizers



Pathway for Scaling Appropriate Mechanization (AM) for CWANA



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Morocco Use case:
Promote CA for 1 Million Ha
Under national plan 2021-2030



Stakeholders meeting involving seven CWANA countries:

F2R-CWANA Agronomist



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To guide for developing road map for research and scaling
innovations to minimize yield gaps

- Identified agronomic **research gaps** for major cropping system for each country
- Identified **scaling ready innovations** and scaling pathway



First agronomist meeting in F2R- CWANA

Cairo, Morocco, 19-22 Dec 2022

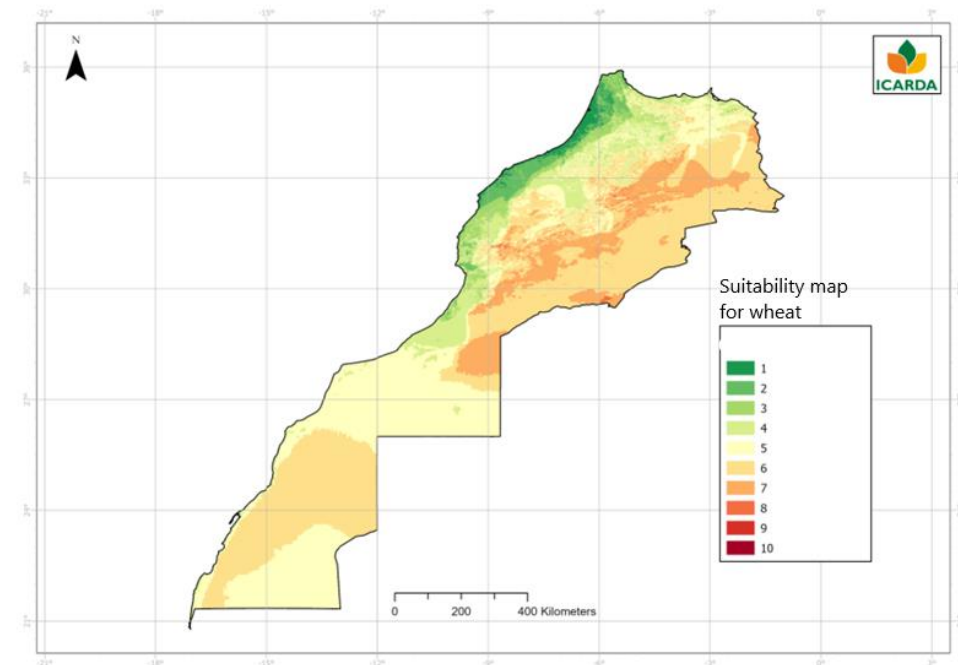
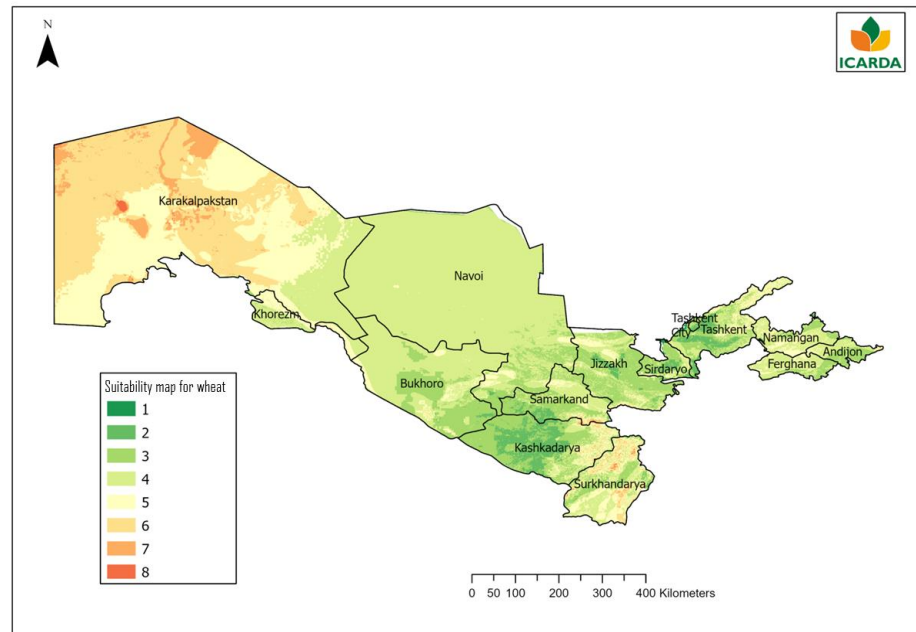
WP3: Methodological approach developed for hot spot and suitability mapping



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Considering biophysical parameters (climatic, soil nutrient and salinity, soil moisture and groundwater table depths, vegetation indices such as NDVI etc.).

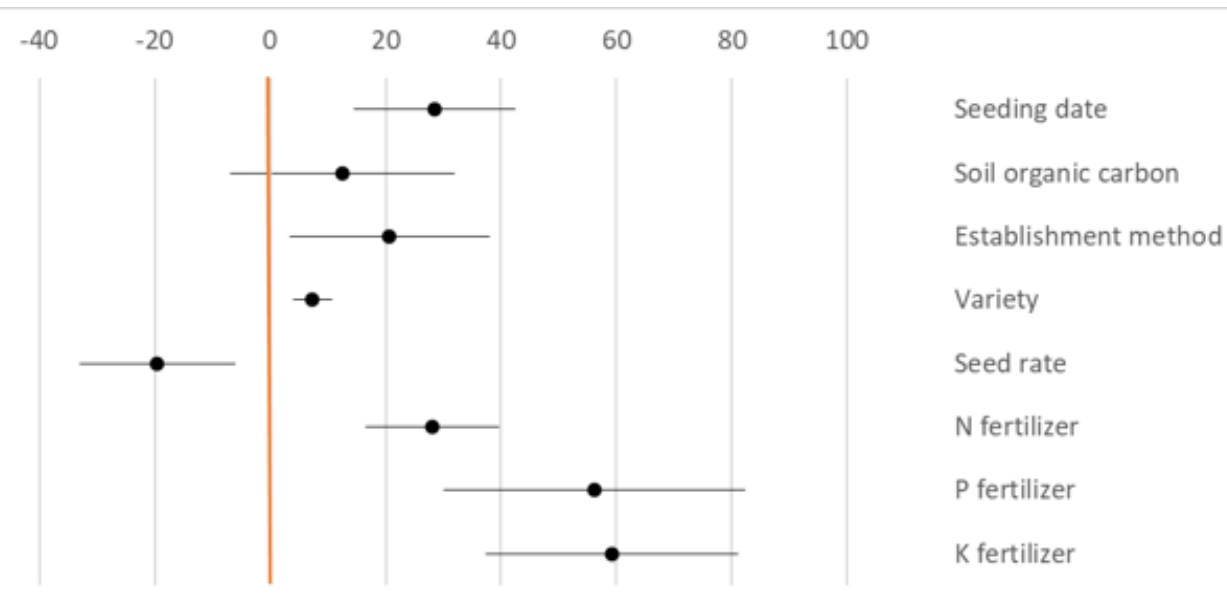
Adapted agronomic solution, pre-season prediction of drought, soil moisture content based customized seeding time, CA are required for rainfed conditions



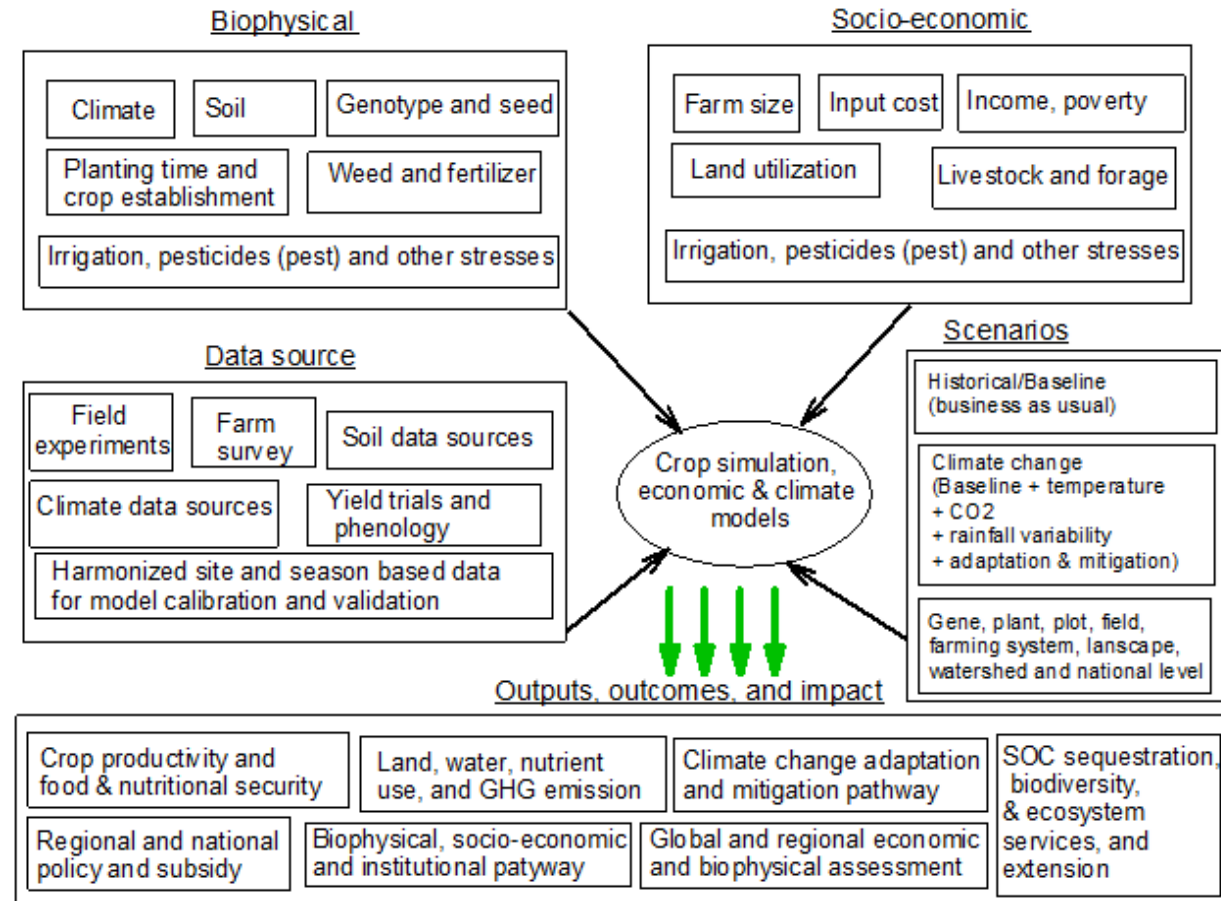
Methodological approach developed for bundling adapted agronomic solution using simulation modeling and big database (meta-analysis)



- DSSAT model calibration and validation for wheat, cotton, maize, rice in Uzbekistan; and for wheat, barley, chickpea and lentil in Morocco
- Compiled national-level agronomic research data



Integrated bundled solution for closing the yield gap



Simulation modeling for precision agriculture, climate adapted solution, and sustainable intensification

Genotype x environment x management for product profiling and climate adapted agronomy



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Country	No./type of experiments	Sites
Egypt	3	Sids and Nuberia
Morocco	3	Merchouch and Sidi El Aidi
Lebanon	1	LARI, Lebanon
Sudan	2	Gezira Research Station
Uzbekistan	1	Karshi Research station



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Water Reuse Community of Practice (MA)

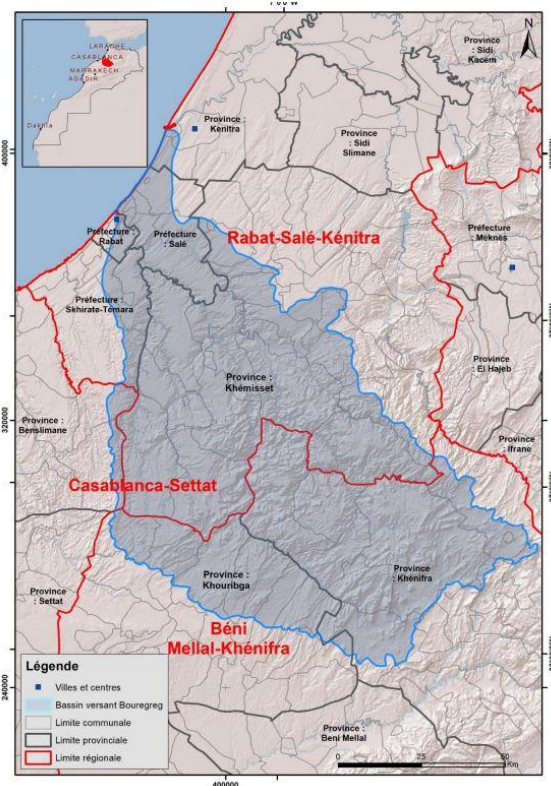
- First National Consultation Meeting to initiate the dialogue around and investigate the cost-benefit analysis, investment options and the different funding possibilities of wastewater treatment and reuse for various consumptive and non-consumptive purposes in marginal communities in Morocco.
- Local Partners: MoW, MoA, MoI PS, EBRD, Academics, Researchers, National Association of Land Improvements, Irrigation, Drainage and Environment (ANAFIDE)



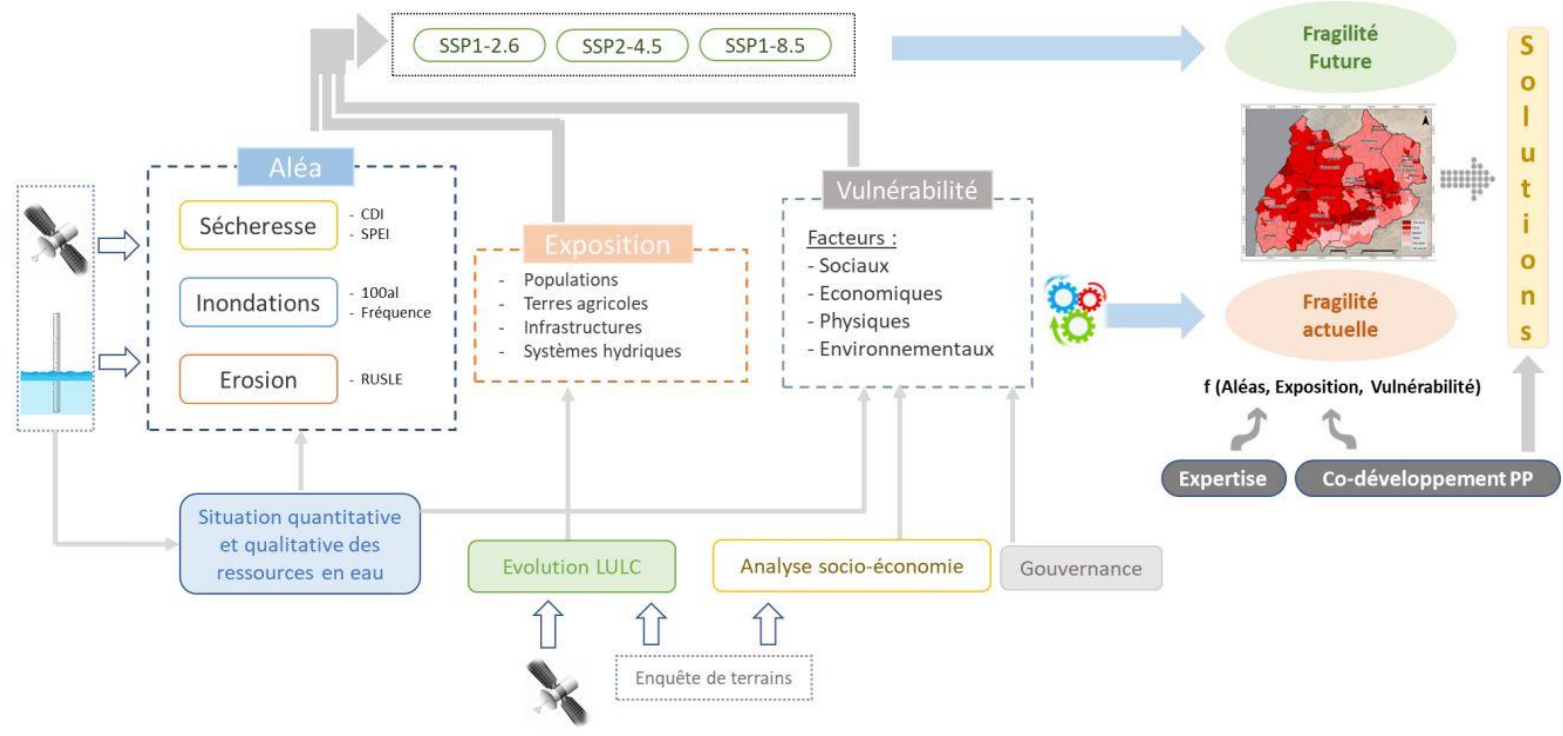
First National Consultation Meeting
Morocco, Rabat, 20-21 Dec 2022

WP4: Integrated food, land, water and energy systems for climate resilient landscapes

Water Landscape Status Analysis (UZ & MA)



Administrative Boundaries the study territory Bouraqaq Watershed, MA (Source: RESING)



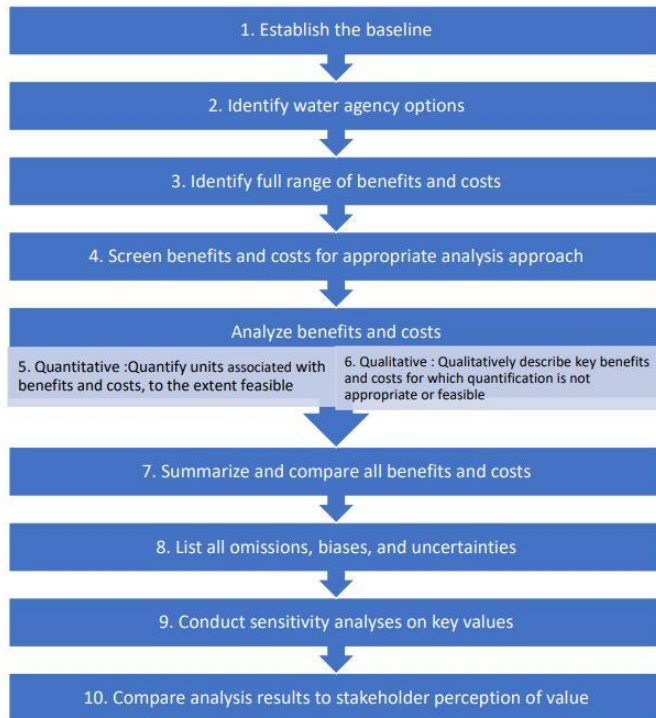
Scientific Methodology (IWMI, 2022)

WP4: Integrated food, land, water and energy systems for climate resilient landscapes

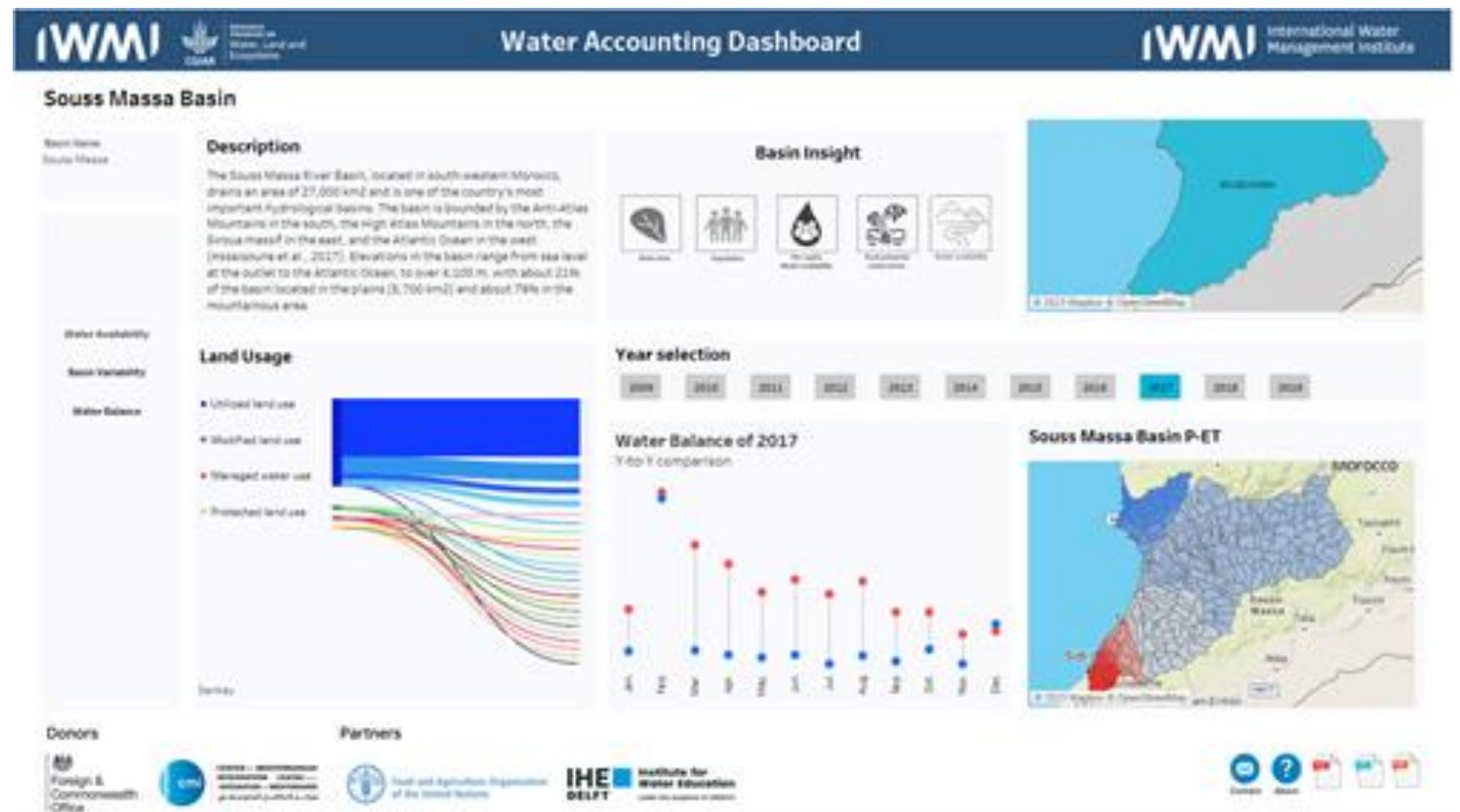


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Water Reuse Cost Benefit Analysis Methodology / MA



Water Accounting + Dashboard MA – Sous Masa Watershed



WP4: Integrated food, land, water and energy systems for climate resilient landscapes



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Integrated Aquaculture Agriculture (EG)



WP5: Scaling innovation and digital tools for climate-resilient food value chains

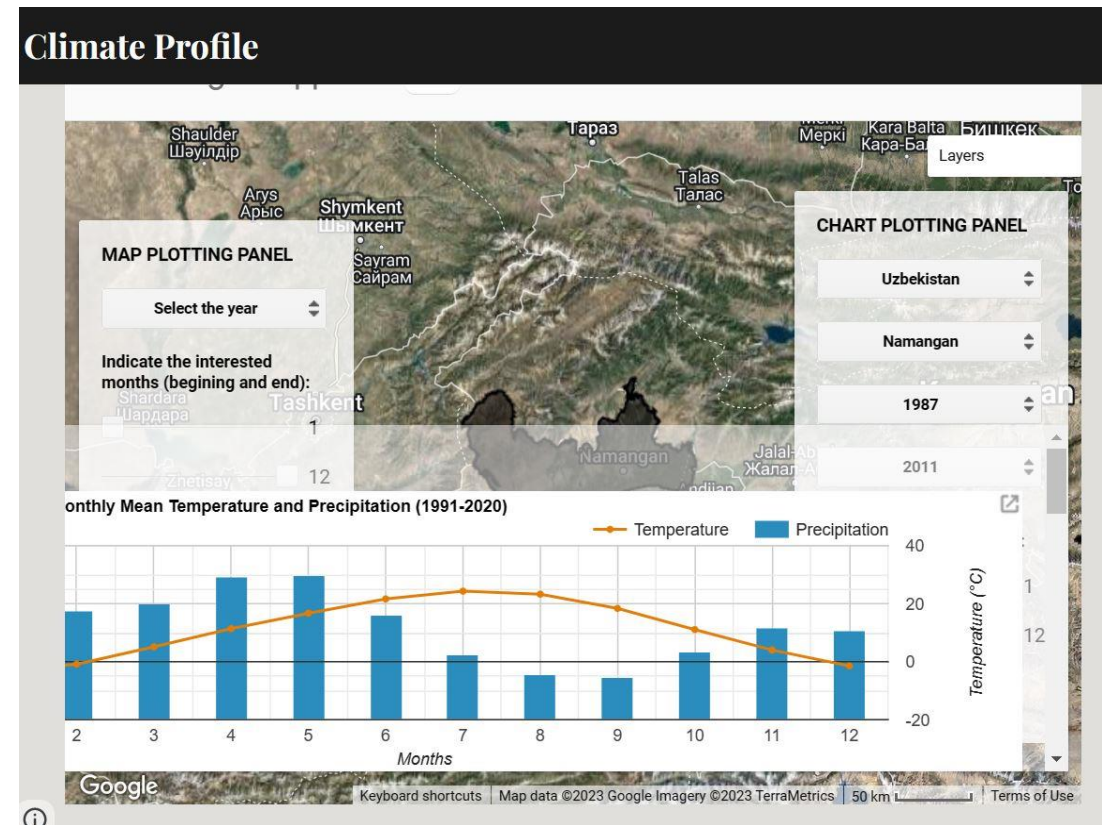


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AgriTech4Morocco

The banner features logos for Digital Development Partnership, World Bank Group, CGIAR, Accelerate for Impact Platform, and Impact LAB. It also includes the Moroccan Ministry of Agriculture and Rural Development logo and the text 'Projet pôle d'Agriculture Digitale'. The main text reads 'AgriTech4Morocco Innovation Challenge' with a deadline 'Apply before : 01 | 05 | 2022'. The illustration shows three scientists in white lab coats in a field of green crops, one holding a small plant in a pot.

Climate Profile Dashboard & User Manual



AgriTech4Morocco Innovation Challenge



300+
Applications submitted

90
Eligible Applications

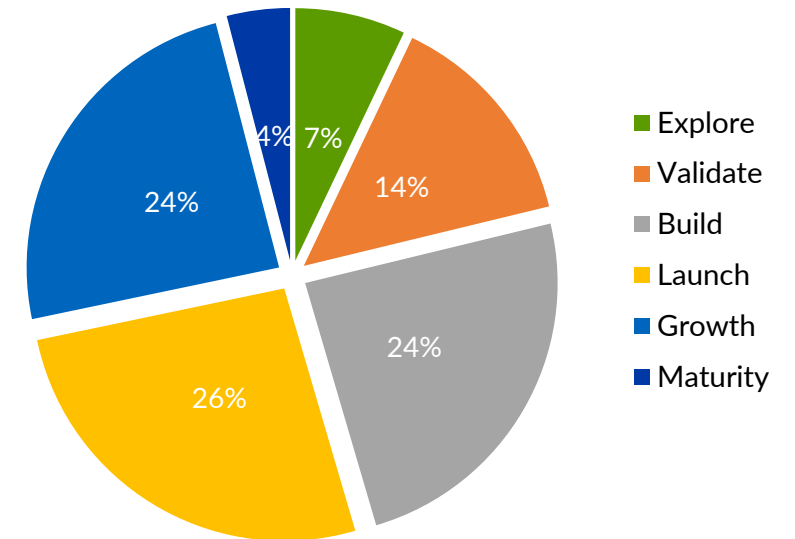
23
Countries represented

41 of these innovations have patents or pending patents

59 applications have 3 or more women in their team

Five priority areas

Stage of development of innovations



Climate risk adaptation

Value chains efficiency

Capacity building

Financial services

Market traceability and transparency

Challenges for Implementation



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Internal

- CGIAR System related
- Host country agreements

External – Partners/countries related

- Capacity
- Political instability



Alliance

Thank you



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