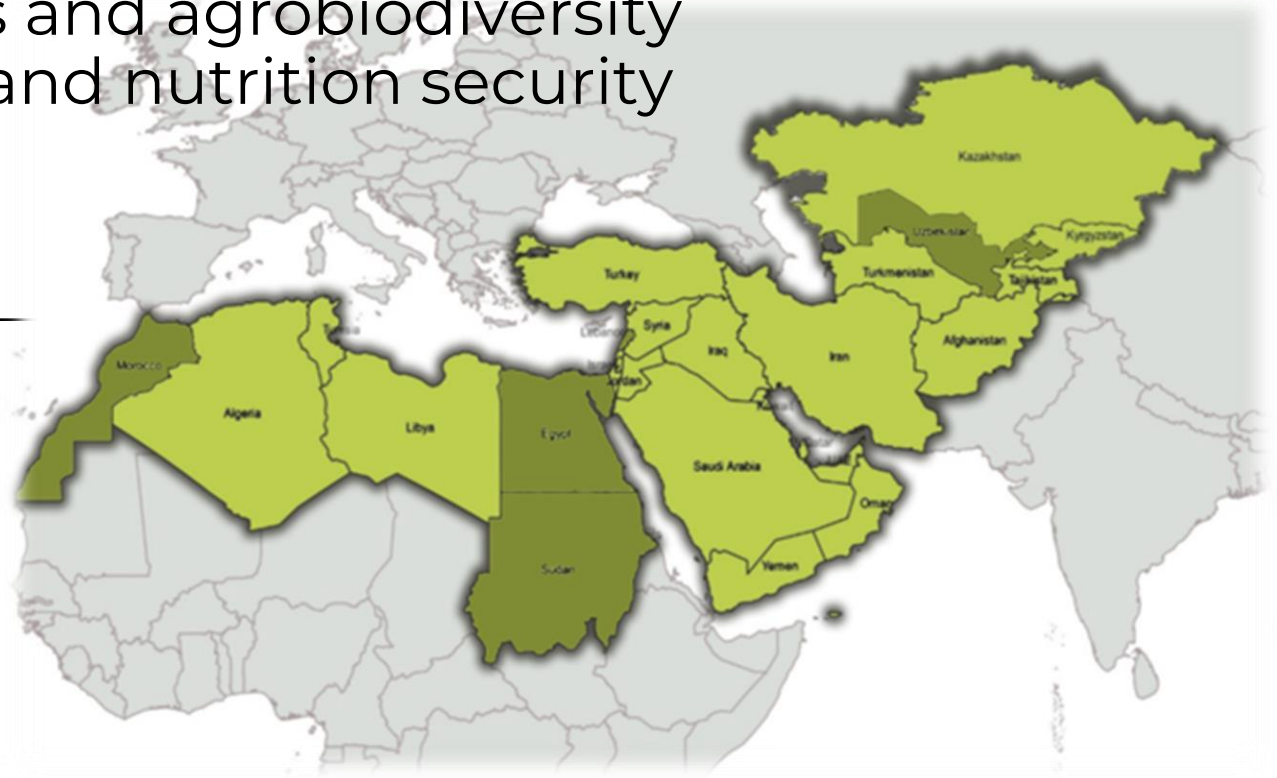
Alliance

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

WP2: Genetic innovation, seed systems and agrobiodiversity conservation for climate resilient food and nutrition security

Inception Workshop – Morocco May 17, 2022



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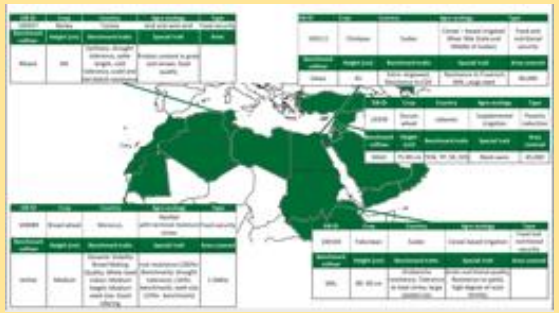
WP 2: Key Tasks

T2.1 Participatory validation of best genetic solutions
(Identify best bet genetic solutions)



Best genetic solutions for CWANA region

T2.2 Inclusive seed systems
(Diversified seed system for dissemination of genetic innovations)

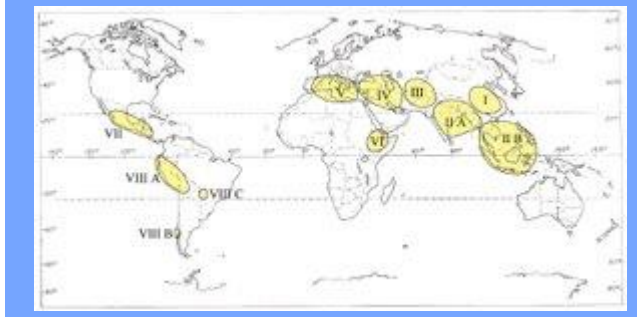
Commercialization: awareness and demand creation for genetic solutions

Availability and access to EGS

Seed systems, adoption and impact

Alternative seed systems for less commercial crops

T2.3 Protecting CWANA biodiversity (Seeds, trees, breeds, fingerlings, etc)



CWANA is a major center of diversity

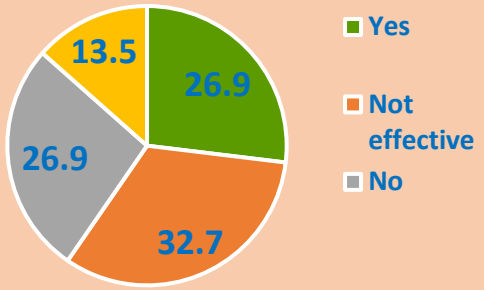
Loss of biodiversity is major threat

Biodiversity has major roles for livelihoods

Breeding depends on availability of PGRs

T2.4 Policies
(Biodiversity conservation & uptake of genetic solutions

Functional national policy and regulatory frameworks



Protecting CWANA biodiversity

Accelerate uptakes of genetic innovations

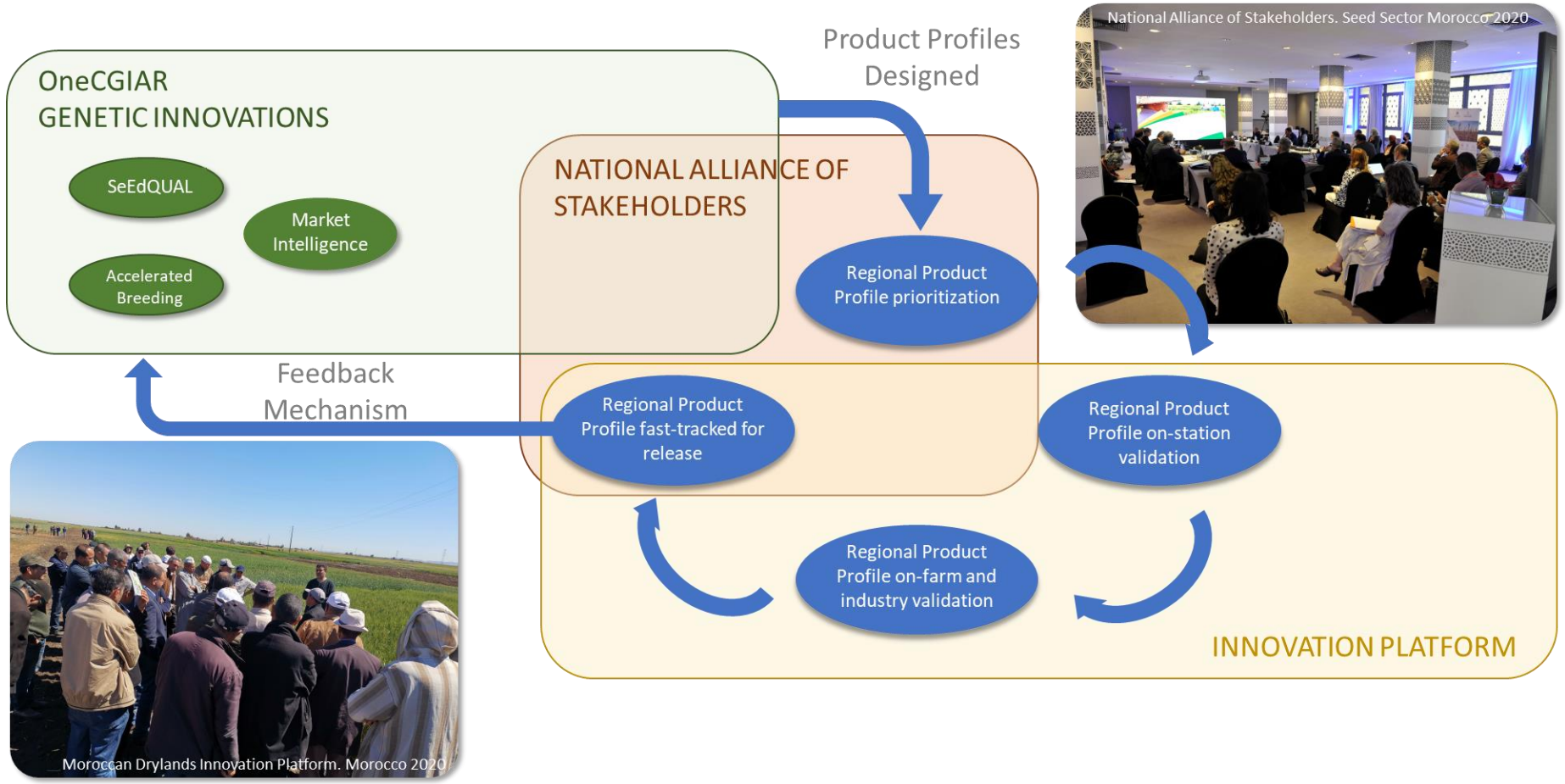
Movement of varieties and seeds

Task 1: Participatory validation of genetic innovations

Multi-stakeholder integrative approach to promote **adoption and fast-track release** of Best **Global Genetic Innovations**

Challenge:
New varieties take too long to be released and often don't answer the needs of farmers, industry and consumers

- **Informed prioritization of Product Profiles**
- **Participatory validation of market segment relevant traits at Innovation Platform**
- **Integration of the needs and preferences of all actors in the value chain, with a gender perspective**
- **Accelerate the release of best bet genetic innovations**

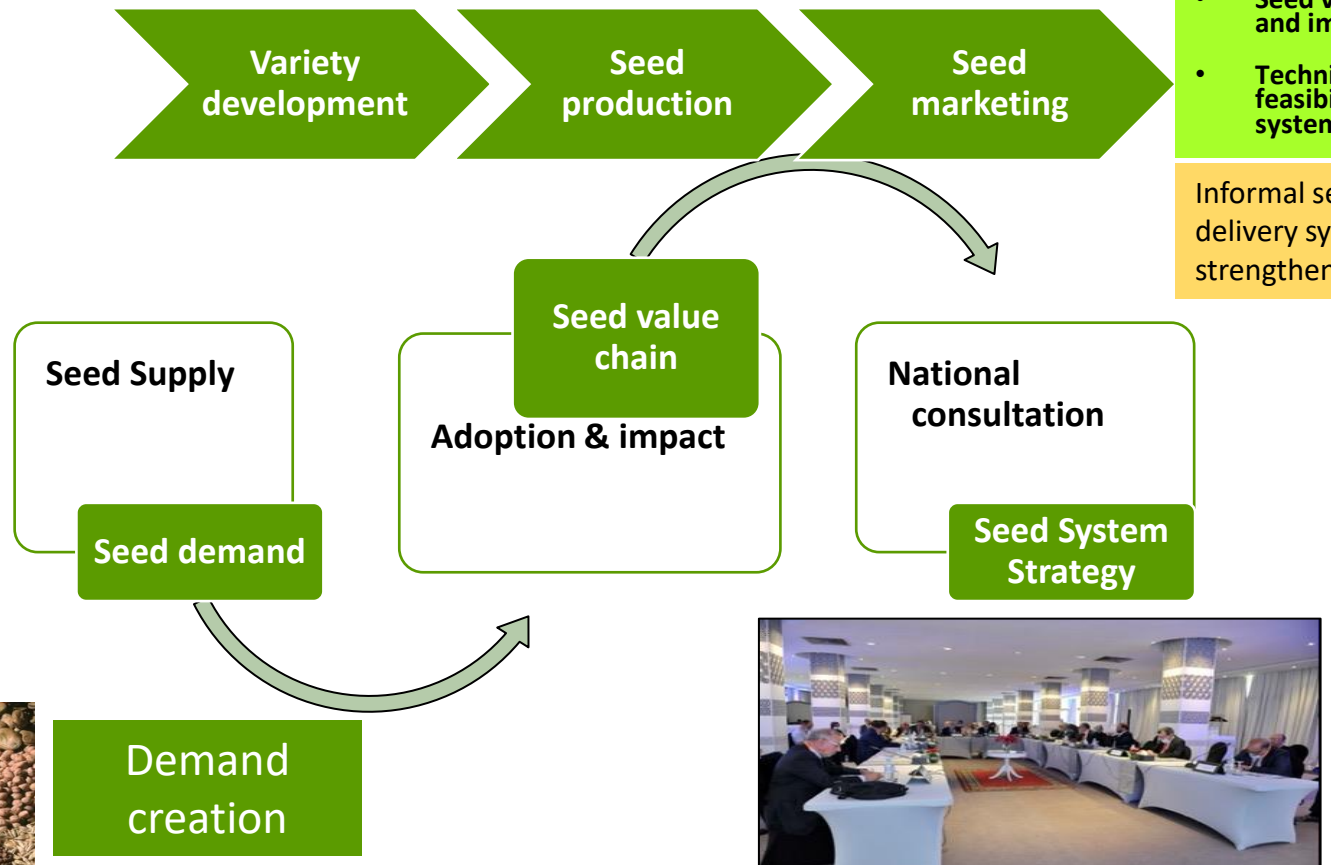


Task 2: Inclusive seed systems for delivery of genetic innovations

Challenges:
Low varietal/seed replacement rates hinder farmers' access and benefits from new genetic innovations

Cognizant of complexity and diversity of CWANA:

- **Context specific seed sector development: agroecology, farming systems, crops & farmers**
- **Value roles of formal, intermediate & informal seed systems and cherishes diversity of pathways where seed of different crops is produced, marketed/exchanged, and used by farmers**
- **Value chain approach from variety development and release to seed production, commercialization and farmers' seed use promoting entrepreneurships**



- **Awareness and demand creation for commercialization**
- **Sustainable EGS production**
- **Seed value chain, adoption and impact**
- **Technical and economic feasibility of alternative seed systems**

Informal seed production and delivery systems for landraces strengthened

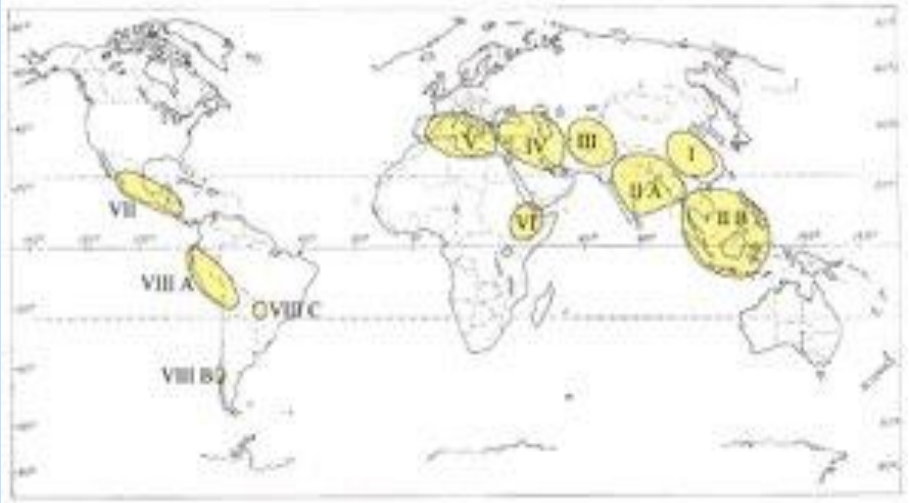
Task 3: Protecting CWANA biodiversity

Challenge: Loss of biodiversity is major threat regionally and globally

CWANA is a major center of diversity for major crops of global importance

Agrobiodiversity continues to support livelihoods of rural poor in drylands and mountainous areas;

- **Reservoir of valuable traits for breeding programs-genes including for adaptation to climate change;**
- **Source of material for rehabilitation of degraded eco- and farming systems;**
- **Social and environmental benefits /services**

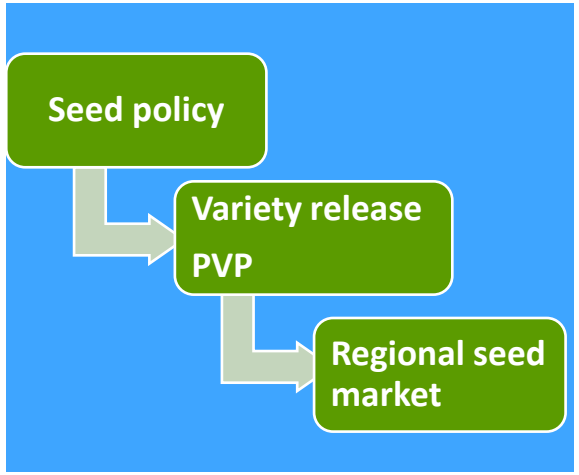


- **A holistic and community-based approach for conservation of agrobiodiversity adopted;**
- **Status and threats to agrobiodiversity assessed;**
- **Agrobiodiversity hotspots identified;**
- **Management plans developed and demonstrated in pilot areas;**
- **Communities and key stakeholders empowered.**

Task 4: Policy to protect biodiversity and seed systems

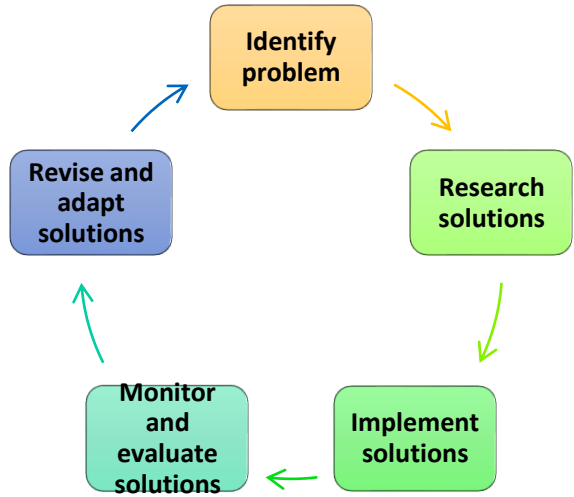
Challenge:
No incentives to protect biodiversity of CWANA

Need to accelerate uptake of genetic innovation in CWANA



Policy entry points in seed systems

Seed value chain	Policy options
Genetic resources conservation	Genetic resources policy Biodiversity conservation policy Access and benefits sharing arrangement Agriculture, nutrition strategies
Genetic improvement	Research spending and prioritization Agro-ecological, market prioritization Nutrition policy
Variety release and registration	Testing, registration and release rules Intellectual property rights and licensing Trade policy
Seed production and quality assurance	Investment and trade policy Production subsidies, taxes Phytosanitary requirements Quality assurance regulations
Seed marketing and distribution	Demand creation mechanisms Farm subsidy, agricultural input policies Agricultural extension services Market and trade regulations
Seed uptake and sustained use	Agricultural input policies Agricultural outputs marketing policy Agriucltural extension services

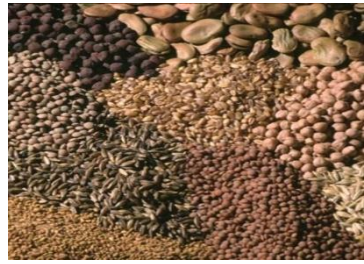


Source: CoE on SS-Policy Deck, 2021

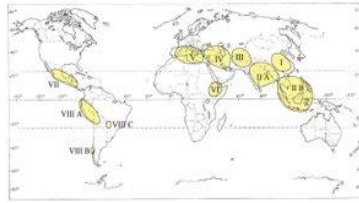
WP2 Main Focus and Prioritization

Innovate: Best bet genetic innovation identified, validated and promoted

Diversify: Seed system for delivery of genetic innovations

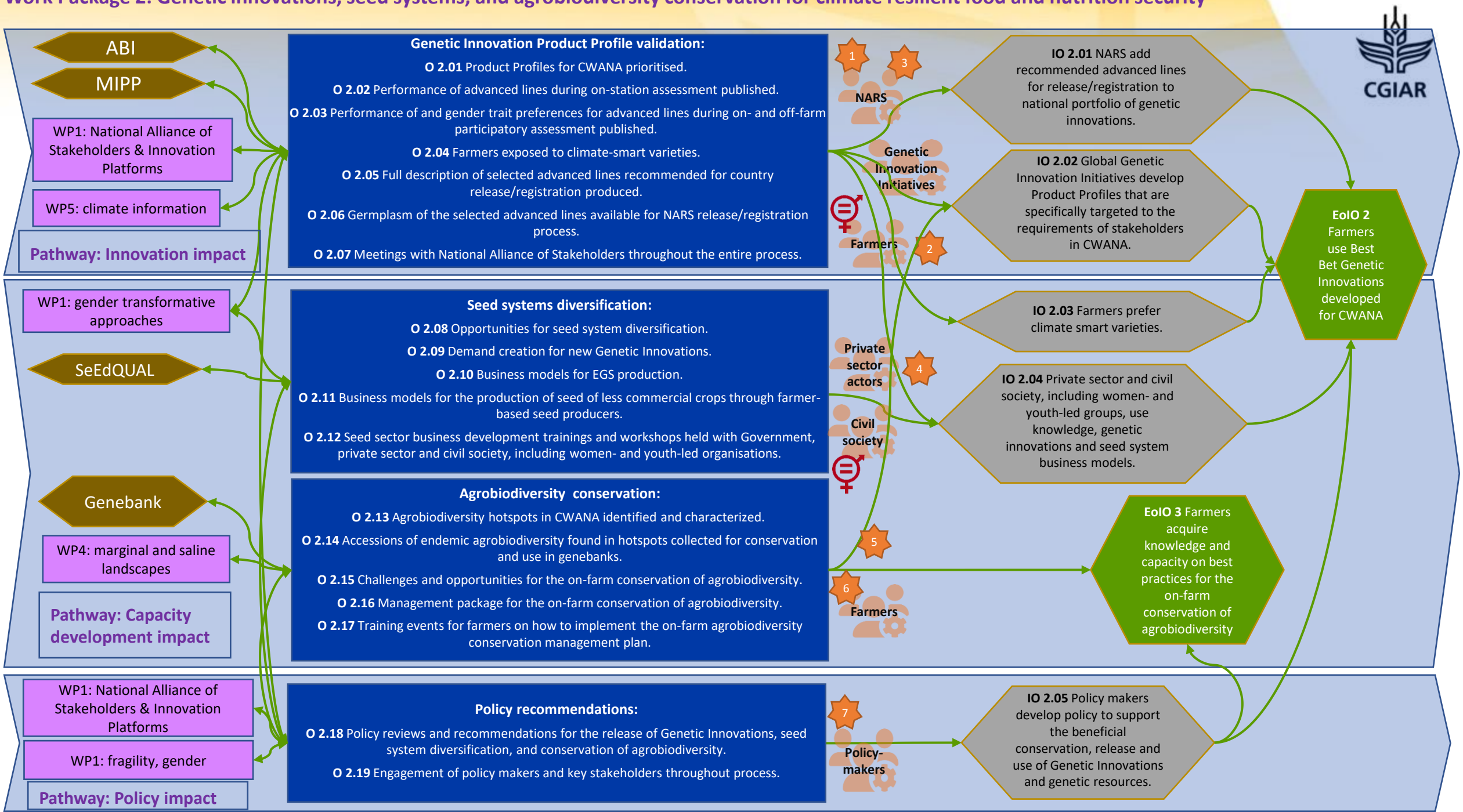


Protect: CWANA biodiversity (Seeds, breeds, trees, weeds, insects, fish, etc)



Policy/Incentives: Agro-biodiversity conservation and accelerate uptake of genetic innovation

Work Package 2: Genetic innovations, seed systems, and agrobiodiversity conservation for climate resilient food and nutrition security



Plan of Results - Morocco …1

Deliverables (Outputs)	Activities	Synergies with WPs	Partners	Scale/location (national, basin level, etc.)	Synergies CG Initiatives	Timeline			
						2022 (Q3)	2023	2024	2025 (Q2)
IO 2.01 NARS add recommended advanced lines for release/registration to national portfolio of genetic innovations **IO 2.02** Global Genetic Innovation Initiatives develop Product Profiles that are specifically targeted to requirements of stakeholders in CWANA **IO 2.03** Farmers prefer climate smart varieties	**O 2.01** Product Profiles for CWANA prioritized	WP1, WP3, WP4, WP5	INRA, MoA, Farmers Assoc., Transformation industry, Female Cooperatives	National and Basin level	ABI, MIPP	X			
	O 2.02 Performance of advanced lines during on-station assessment published.					X	X	X	X
	O 2.03 Performance of and gender trait preferences for advanced lines during on- and off-farm participatory assessment published						X	X	X
	O 2.04 Farmers exposed to climate-smart varieties.						X	X	X
	O 2.05 Full description of selected advanced lines recommended for country release/registration produced.							X	X
	O 2.06 Germplasm of selected advanced lines available for NARS release/ registration process.							X	X
O2.09 Demand creation for new genetic innovations	Participatory demonstration of best bet genetic innovations	WP1, WP5	INRA, AMMS, AMSP, FNIS, MoA	National/Basin level	SeEdQUAL, ABI	X	X	X	?
	Organization of field days for stakeholders	WP1, WP5	INRA, AMMS, AMSP, FNIS, MoA	National/Basin level	SeEdQUAL	X	X	X	?
	Data collection and cost-benefit analysis of new genetic innovations	WP1, WP5	INRA, AMMS, AMSP, FNIS, MoA	National/Basin level	SeEdQUAL				
O 2.11 Business models for production of seed of less commercial crops through farmer-based seed producers developed	Organize, train and engage farmer (women and youth) groups in local seed business for less commercial crops	WP1, WP6	INRA, MoA	National/Basin	SeEdQUAL		X	X	X
	Collect data and analyze technical and economic feasibility of local seed business groups	WP1, WP5	INRA, MoA	National/Basin level	SeEdQUAL		x	x	X

Plan of Results – Morocco...2

Deliverables (Outputs)	Activities	Synergies with WPs	Partners	Scale/location (national, basin level, etc.)	Synergies CG Initiatives	Timeline			
						2022 (Q3)	2023	2024	2025 (Q2)
O 2.13 Agrobiodiversity hotspots in CWANA identified and characterized	Conduct gap analysis, ecogeographic/botanic analysis and farming systems surveys in 2 selected agrobiodiversity hotspots	WP1, WP2, WP5	INRA, MoA, communities	National, selected communities	GeneBank Platform	X	X		
O 2.14 Accessions of endemic agrobiodiversity found in hotspots collected for conservation in genebanks	Collect additional accessions based on gap analysis	WP1	INRA, MoA, communities	National	GeneBank Platform		X	X	X
O 2.16 Management package for on-farm conservation of agrobiodiversity developed and demonstrated in selected pilot areas	Develop and demonstrate management plans for conservation of agrobiodiversity with key stakeholders.	WP1, WP2, WP3, WP4, WP5	INRA, Research, communities	Selected communities	GeneBank Platform	X	X	X	X
O 2.17 Training farmers on on-farm agrobiodiversity conservation management plan	Organize training of farmers, young researchers and extension agents and women in the communities in selected agrobiodiversity hotpots.	WP1, WP2, WP3, WP4, WP5	INRA, Research, communities	National, community	GeneBank Platform	X		X	
O 2.18 Policy reviews and recommendations on conservation of agrobiodiversity	Primary and secondary data collection of policy challenges	WP1, WP5	INRA, FNIS, ONSSA, MoA	National	GeneBank Platform		X		
	Analysis of policy challenges for agro-biodiversity conservation	WP1, WP5	INRA, FNIS, ONSSA, MoA	National	GeneBank Platform		X		

Partners

Activities	Partners	Role
O 2.01 Product Profiles for CWANA prioritized.	INRA, MoA, SONACOS, ONCA, Farmers Assoc., Transformation industry, Female Cooperatives	Help prioritize among the available Global Genetic Innovations based on country needs
O 2.02 Performance of advanced lines during on-station assessment published.		
O 2.03 Performance of and gender trait preferences for advanced lines during on- and off-farm participatory assessment published.	INRA, ONCA, Farmers Assoc., Transformation industry, Female Cooperatives	Help defining, evaluating and validating gender-based traits
O 2.04 Farmers exposed to climate-smart varieties.	INRA, ONCA, Farmers Assoc., Female Cooperatives	Organize, assist and participate in Farmers' field days including evaluation of candidates
O 2.05 Full description of selected advanced lines recommended for country release/registration produced.	INRA, MoA, SONACOS, ONCA	Co-produce and validate the description
O 2.06 Germplasm of the selected advanced lines available for NARS release/ registration process.	INRA, MoA, SONACOS, ONCA, Farmers Assoc., Transformation industry, Female Cooperatives	Ensure seed multiplication and characterization for submitting for release
Participatory demonstration of best bet genetic innovations	INRA, AMMS, AMSP, FNIS, MoA	Identify and plant demonstrations
Organization of field days for key partners and stakeholders	INRA, AMMS, AMSP, FNIS, MoA	Organize field days for stakeholders
Cost-benefit analysis of new genetic innovations	INRA, AMMS, AMSP, FNIS, MoA	Collect cost data for demonstration
Organize, train and engage farmer (women and youth) groups in local seed business for less commercial crops	INRA, FNIS, MoA	Farmer organization, seed production, business plan development
Collect data and analyze technical and economic feasibility of local seed business groups	INRA, MoA	Data analysis
Gap analysis to identify and characterize agro-biodiversity hotspots	INRA, MoA	Provide data and undertake farming systems surveys
Conduct eco-geographic surveys	INRA, MoA	Provide data
Develop and test agrobiodiversity management plan	INRA, MoA	Organize meeting with local communities and demonstrate options
Strengthen capacity on agrobiodiversity conservation and management	INRA, MoA	Identify key stakeholders
Primary and secondary data collection of policy challenges	INRA, FNIS, ONSSA, MoA	Organize and collect primary and secondary data
Analysis of policy challenges for agro-biodiversity conservation	INRA, FNIS, ONSSA, MoA	

Capacity Development Needs

Activities	Partners	Capacity Needs
O 2.01 Product Profiles for CWANA prioritized.	INRA, MoA, SONACOS, ONCA, Farmers Assoc., Transformation industry, Female Cooperatives	
O 2.02 Performance of advanced lines during on-station assessment published.		
O 2.03 Performance of and gender trait preferences for advanced lines during on- and off-farm participatory assessment published.	INRA, ONCA, Farmers Assoc., Transformation industry, Female Cooperatives	Gender-approach for data collection and evaluation
O 2.04 Farmers exposed to climate-smart varieties.	INRA, ONCA, Farmers Assoc., Female Cooperatives	
O 2.05 Full description of selected advanced lines recommended for country release/registration produced.	INRA, MoA, SONACOS, ONCA	
O 2.06 Germplasm of the selected advanced lines available for NARS release/ registration process.	INRA, MoA, SONACOS, ONCA, Farmers Assoc., Transformation industry, Female Cooperatives	Seed purification and multiplication for registration
Participatory demonstration of best bet genetic innovations	INRA, MoA	Experimental design and data collection
Cost-benefit analysis of new genetic innovations	INRA, MoA	Cost benefit analysis of new genetic innovations
Gap analysis to identify and characterize agro-biodiversity hotspots	INRA, MoA	Approaches for gap analysis
Conduct eco-geographic surveys	INRA, MoA, local communities	Approaches for efficient conservation of agrobiodiversity
Develop and test agrobiodiversity management plan	INRA, MoA, local communities	Elements of the management plans
Strengthen capacity on agrobiodiversity conservation and management	INRA, MoA	Training of trainers
Primary and secondary data collection of policy challenges for agrobiodiversity conservation	INRA, ONSSA, MoA	Questionnaire development and data collection
Analysis of policy challenges for agro-biodiversity conservation	INRA, AMMS, AMSP, FNIS, ONSSA, MoA	Data analysis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