

ICARDA-NARES consultation meeting, 13th-15th December 2022 Istanbul, Türkiye

Aide Memoire: high level guidance to 2030 for genetic innovation implementation in CWANA++

- 1. Background:** ICARDA, as a part of CGIAR, and NARES (*national agricultural research and extension systems*) undertake Genetic Innovation research to generate and deliver superior cultivars adapted to dryland conditions with the joint goal of bettering farmers lives.

Considering the main unique factors of the Region that ICARDA breeds for, which comprises all global non-tropical drylands of Central West Asia and North Africa (CWANA) and several other countries (CWANA++¹):

- By 2030 a near certain +2°C warming compared to 1990 temperature and a plus 4°C to end 2050, which shall result in an increase of biotic and abiotic stressors²
- Drylands being the regions suffering the most severe water scarcity
- Global instability and its impact on global supply chains on which most of the countries rely
- Being the centre of origin for several key crops well adapted to the Region

ICARDA in its 2017, 10-year Strategy had identified breeding for climate change resilience one of the key innovations needed to improve livelihoods in drylands. Since 2022, ICARDA operates under and fully supports the transition to CGIAR. It is within this shift that ICARDA feels the need to seek guidance by its NARES partners to determine if the portfolio of Genetic Innovation research defined in the 2017-2026 ICARDA Strategy is still significant to the 2030 horizon set by CGIAR. To that end, a partner meeting has taken place in Istanbul, Turkey 13th to 15th December 2022 between ICARDA management and NARES leaders, selected based on their active role in requesting, using and promoting ICARDA's Genetic Innovations. As a part of this initial engagement in CWANA++, this meeting provided the first step towards further inclusion of other involved CGIAR Centers³. In their initial deliberations, NARES have expressed the following considerations to guide this prioritization work: food security, climate change, and strategies to support effective management of agriculture and food systems.

The term "Genetic Innovation" refers specifically to the efforts of **breeding** as defined within the new portfolio of initiatives of the CGIAR to which ICARDA contributes:

- Accelerated Breeding⁴
- Breeding Resources⁵
- Market Intelligence⁶
- From Fragility to Resilience in CWANA WP2⁷
- Seed Equal⁸

¹ Full list of countries in attendance Table 1

² North Africa: The Impact of Climate Change to 2030 (Selected Countries) NIC 2009-007D

³ CIMMYT, CIP, CIAT


⁴ <https://www.cgiar.org/initiative/01-accelerated-breeding/>

⁵ <https://www.cgiar.org/initiative/04-enabling-tools-technology-and-services-for-genetic-gains/>

⁶ <https://www.cgiar.org/initiative/05-market-intelligence-for-more-equitable-and-impactful-genetic-innovation/>

⁷ <https://www.cgiar.org/initiative/10-from-fragility-to-resilience-in-central-and-west-asia-and-north-africa-f2r-cwana-transforming-responses-to-drought-and-climate-variability/>

⁸ <https://www.cgiar.org/initiative/06-seedqual-delivering-genetic-gains-in-farmers-fields/>

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2. **Aide memoire:** This aide memoire provides a record of the NARES guidance that ICARDA and CGIAR have received during the Istanbul meeting. This paper is not legally binding and it does not supersede or replace any Memoranda of Understanding or other agreements that have been signed between a NARES and ICARDA or CGIAR. This aide memoire is meant to:
 - i. Capture the positive features of CGIAR/ICARDA/NARES partnership in the area of Genetic Innovations
 - ii. Record the jointly defined areas of priority and of potential improvement
 - iii. Document the suggested guiding principles for achieving those defined improvements
 - iv. Be limited in time in its definitions up to 2030
 3. **Guiding Principles:** both NARES and CGIAR/ICARDA recognize the following high-level principles for achieving a “stronger partnership”:
 - i. Fairness between CGIAR-ICARDA and NARES recognitions and responsibilities.
 - ii. Better alignment between CGIAR-ICARDA and NARES towards common goals.
 - iii. Favour greater complementary of skills and capacities between CGIAR-ICARDA and NARES, reducing unnecessary duplications to achieve greater efficiencies.
 4. **Acknowledging achievements:** Substantial achievements have arisen from collaboration between NARES and CGIAR-ICARDA in the area of Genetic Innovation, through research and capacity development; the sharing of information, germplasm and technologies; the better management and use of data; and joint fund raising. These achievements can broadly be summarized as:
 - i. Faster and better development and deployment of newly improved germplasm
 - ii. The development of new skills and institutional capacities
 - iii. Scaling-up of proven technologies
 - iv. Greater social and economic impact, providing country climate change readiness
 5. **Our common objective:** beside the clear achievements already obtained, the NARES agree that greater success can be obtained via *strengthening* the CGIAR, ICARDA, and NARES partnership.
 6. **Genetic Innovation priorities of ICARDA revised for implementation to 2030:** participants in this meeting have completed prior to the event a targeted survey. The results of this survey have been discussed and validated by the participants.
 - i. CGIAR/ICARDA mandate crops are: bread wheat, durum wheat, barley, grasspea, Kabuli chickpea, lentil, and faba bean
 - ii. As per the results of the survey, the NARES confirm that their institutional priorities for Genetic Innovation with a specific focus on breeding are correctly captured. This survey also notes the additional prioritization and importance of different crops across NARES. Results of the survey are available in **Annex A**.
 7. **CGIAR-ICARDA-NARES partnership:** each partnership between NARES and CGIAR-ICARDA will take its most suitable form. Nevertheless, some possible forms of partnership around the concept of “aligning breeding priorities toward common goals” have been provided in **Annex B** for reference and future guidance.


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8. **Achieving a win-win approach to partnership:** endorsing the guidance defined in Points 5-7, CGIAR-ICARDA will seek to strengthen its partnership with NARES in the following priority areas:
 - i. Joint planning, execution and delivering of the set Genetic Innovations priorities
 - ii. Resource allocation that complements national priorities and investments
 - iii. Enhancing synergies between CGIAR, ICARDA and NARES
 9. **Statement of support:** a “win-win partnership” between CGIAR, ICARDA and NARES is a prerequisite to maximise impact at farmer field level in line with national and global commitments to food security and crop adaptation to climate change. Hence, CGIAR-ICARDA and NARES, wish to record their renewed intention to promote and support each other’s Genetic Innovation efforts. To do so to the best of their ability, using the most appropriate solution at their disposal to ensure long term sustainability.

Table 1. Physical witnesses to the creation of this document

Country	Institution	Representative	Signature
Algeria	CNCC - Centre National de Contrôle et de Certification des Semences et Plants	Mellah Zakia	
Azerbaijan	ARICH - Azerbaijan Research Institute of Crop Husbandry	Faiq Khudaev	
India	ICAR - Indian Council of Agricultural Research	Sanjeev Gupta	
Jordan	NARC - National Agricultural Research Center	Naem Mazahrih	
Lebanon	LARI - Lebanese Agricultural Research Institute	Rola El Amil	
Morocco	INRA - Institut National de la Recherche Agronomique	Faouzi Bekkaoui	
Palestine	NARC - National Agricultural Research Center	Samer Jarrar	
Sudan	ARC - Agriculture Research Corporation	Abdel Moneim Taha	
Tunisia	INRAT - National Institute of Agricultural Research of Tunisia	Mondher Ben Salem	
Türkiye	TAGEM - General Directorate of Agricultural Research and Policies	Metin Türker	
Uzbekistan	UzRIGR – Uzbek Research Institute of Genetic Resources	Safar Alikulov	
CGIAR	ICARDA – International Center for Agricultural Research in the Dry Areas	Aly Abousabaa	



Table 1 (ctd). Virtual witnesses to the creation of this document

Country	Institution	Name & Surname	Signature
Iran	AREEO - Agricultural Research, Education and Extension Organization	Mojtaba Khayam Nekoei	
Egypt	ARC - Agriculture Research Center	Mohamed Soliman	
Syria	GCSAR - General Commission for Scientific Agricultural Research	Majeda Mofleh	

Annex A. Outcome of survey for prioritization 2023-2030 of ICARDA Genetic Innovation agenda

Table B.1 Top four country priorities (●) for crop breeding and secondary priorities (○)

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	●	●	○	●	●	○	-

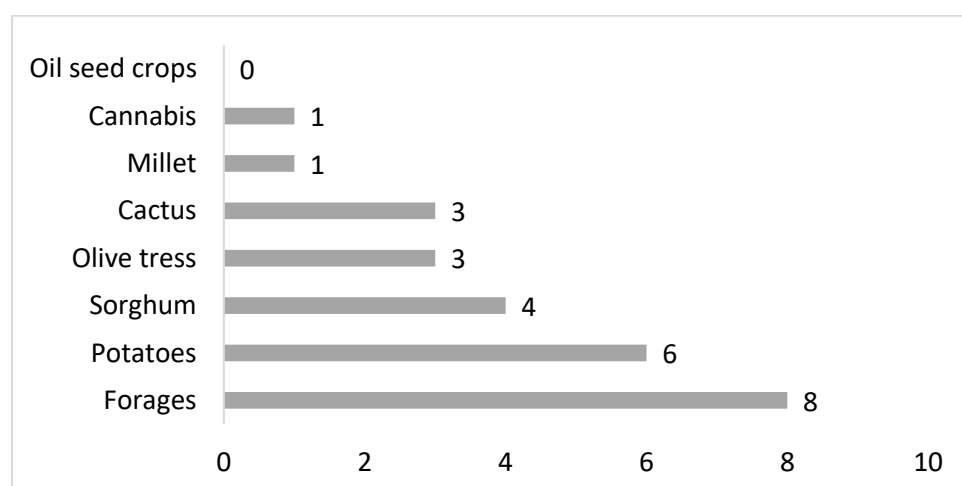


Fig B1. Additional crops ICARDA should consider breeding or support the connection between CGIAR institutions working on them and the NARES

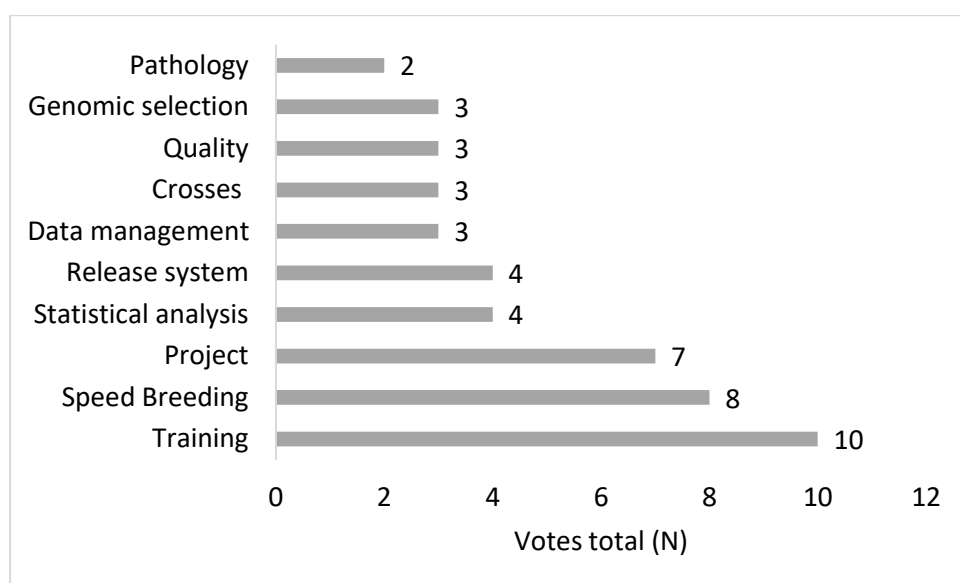


Fig B2. Breeding related priorities requested from ICARDA by NARES

Additional list of genetic innovation priorities defined by NARES:

- More partnership meetings to coordinate goals and efforts (high priority by several partners)
- Breeding goals:
 - Water Use Efficiency and Nitrogen Use Efficiency
 - Breeding for suitability to conservation Agriculture
 - Drought and heat tolerance
 - Shorten crop cycles
- Networks:
 - ICARDA to coordinate network of national breeding programs
 - Generate and maintain a network of thematic laboratories/test sites
 - Exchange yearly updated catalogue of regional releases
- Provide training and information on PPP (public, private partnership) for seed system
- Gene editing: ICARDA to support the connection between NARES and related initiative
- Linkage across crops: ICARDA to facilitate the connection between other CGIARs for crops considered to be a priority
- Oil seed crops

Annex B. Example of guidance on joint partner engagements

The list below provides guidance on the practical forms through which a stronger symbiotic partnership can be established between ICARDA and its national partners (NARES) in the delivery of breeding outputs:

- i. All national partners explicitly identify country representatives for each crop that will work jointly to define the full list of joint engagements
- ii. The partnership between ICARDA and NARES will seek to re-focus breeding efforts toward serving jointly the 1-3 most critical *market segments* to be tackled in the next 5 years, as already pre-defined in **Annex B**
- iii. For each *market segment*, the partners will engage to clearly define the breeding objectives
- iv. For each *market segment*, the partners will engage to define specific *breeding pipelines* to deliver the set germplasm
- v. For each *breeding pipeline*, the partners will engage to achieve registration of new, suitable varieties that meet the set of needed traits as fast as economically possible
- vi. For each *breeding pipeline*, the partners will engage to define jointly actual costs associated with it and how to best sustain these, following the principles of complementarities of skills and best value for money
- vii. For each *breeding pipeline*, the partners will engage to identify existing capacities gaps