ICARDA

Science for resilient livelihoods in dry areas

Monitoring and Evaluation Framework

Indicators Reference Manual (IRM)

Companion document to:

2030 Research and Innovation Strategy

2024-26 Program of Work

Version 1

16 December 2024

AUTHORS
INNOCENT BIKARA, JULIANA ANCHNG, RUTH MAWIA, ENRICO BONAIUTI, ASMA JEITANI, SARA JANI, LAURA BECKER

SUGGESTED CITATION
INNOCENT BIKARA, JULIANA ANCHANG, RUTH MAWIA, ENRICO BONAIUTI, ASMA JEITANI, SARA JANI, LAURA BECKER (16/12/2024). INDICATORS REFERENCE MANUAL FOR THE ICARDA KEY PERFORMANCE INDICATORS (KPIS). ICARDA. EGYPT.

DISCLAIMER

Version information:

Version	Author	Reviewer	Description
1	Innocent Bikara, Juliana Anchang, Ruth Mawia, Enrico Bonaiuti, Asma Jeitani, Sara Jani, Laura Becker		Content, Structure

Acronyms

BoT	Board of Trustees
CAM	Climate Adaptation and Mitigation
CCRP	Cross-Cutting Research Priorities
CDU	Capacity Development Unit
CGIAR	Consortium of International Agricultural Research Centers
CGSpace	CGIAR's Dspace software
Communications team	Communication and Documentation Information Services
DAC	The Development Assistance Committee
DDGR	Deputy Director General for Research
DNA	Deoxyribonucleic Acid
EGS	Early generation seed
EHB	Environmental Health and Biodiversity
eWAS	Environmental-wide association studies
FAO	Food and Agriculture Organization of the United Nations
FIGS	Focused Identification of Germplasm Strategy
GIS	Geographic information systems
GPS	Global Positioning Systems
GRS	Genetic Resources
GWAS	Genome-wide association studies
ICARDA	International Center for Agricultural Research in the Dry Areas
IDMS	ICARDA International Nurseries
IRM	Indicators Reference Manual
ISI	International Statistical Institute
KPI	Key Performance Indicator
MEL	Monitoring, Evaluation and Learning
MELSpace	ICARDA's Dspace software
MoA	Memorandum of agreement
MoU	Memorandum of understanding
MT	Metric Tonnes
NARES	National Agricultural Research and Extension Systems
NARS	National Agricultural Research Systems
NGO	Non-Governmental Organizations
NHFS	Nutrition, Health, and Food Security
OCS	One Corporate System
OECD	The Organisation for Economic Co-operation and Development
PGRFA	Plant Genetic Resources for Food and Agriculture
PGU	Partnerships and Grants Unit

PhDs	Doctor of Philosophy
PPP	Purchasing power parity
PRLJ	Poverty Reduction, Livelihoods, and Jobs
PRMS	Performance & Results Management System
Q1	First quarter of a calendar year
Q2	Second quarter of a calendar year
Q3	Third Quarter of a calendar year
Q4	Fourth quarter of a calendar year
QDS	Quality Declared Seed
R4D	Research for Development
RAFS	Resilient Agri-Food System
RASPS	Resilient Agro-silvo-pastoral Systems
SDG	Sustainable Development Goal
SEP	Social Economy and Policy Research
SINH	Seed Systems, International Nurseries and Seed Health
SMTA	Standard Material Transfer Agreement
SRP	Strategic Research Priorities
ST	Systems Transformation
SWA	Soils, Water, and Agronomy
WAVA	Weighted average varietal age

Table of Contents

Introduction

ICARDA reviewed/revised the organizational strategy and published the ICARDA 2030 Research and Innovation Strategy. In addition, a 2024-26 Plan of work was developed to operationalize the 2030 Research and Innovation Strategy. Both documents contain a list of key performance indicators (KPIs). To ensure that the indicators are interpreted consistently, the ICARDA MEL team developed this indicators reference manual (IRM). ICARDA Research and functional teams were consulted and provided valuable input to this reference manual.

By publishing this IRM, the MEL team envisions that ICARDA programs and projects will adopt/retrieve the indicators and consistently measure and report strategic results across ICARDA with the support of the MEL team that will ultimately aggregate the results and perform quality assurance for ICARDA-level Board of Trustees reporting. The IRM is a living document that will be suject to routine review in response to changes in strategic direction, 'new' knowledge of more cost-effective and robust data collection methods and feedback from users. An online version of this IRM can be accessed here. For more information on how the data is collected for these indicators, please visit the Data Collection, Handling and Storage Guiding document.

List of Indicators aligned to the ICARDA 2030 Strategic and Cross-Cutting Research Priorities

The indicators are categorized into 3 indicator levels (groups) corresponding to the result levels in the causal chain i.e. **output indicators** (variables for tracking the immediate results from the activities that ICARDA and its partners carry out), **outcome indicators** (variables for tracking the immediate effects resulting from the use of outputs delivered by ICARDA and its partners) and **impact indicators** (variables for measuring or estimating the long-term/system-level results). The indicators include 13 output-level indicators, 13 outcome-level indicators, and 5 impact-level indicators and (Figure 1). Table 1 contains a matrix of indicators that the M&E Team has designed for the corresponding SRPs/CCRPs.

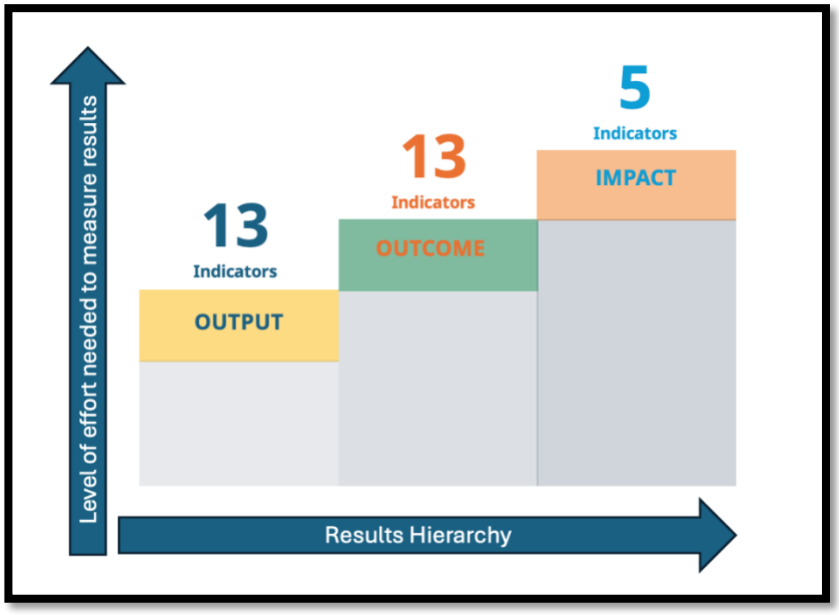

Figure 1: Illustration of the number of indicators per result level

Table 1: List of Indicators and the corresponding alignment to the ICARDA 2030 Research and Innovation Strategy

Result level	Indicator ID	Indicator statement	SRP 1	SRP 2	SRP 3	SRP 4	CCRP 1	CCRP 2	CCRP 3	CCRP 4
Impact	IM-01	Number of people with improved income			✓	✓				
Impact	IM-02	Area of land under improved management		✓*	✓	✓				
Impact	IM-03	Percent change in water productivity				✓				
Impact	IM-04	Number of people using ICARDA innovations		✓	✓	✓	✓	✓	✓	✓
Impact	IM-05	Number of plant genetic accessions available and safely duplicated	✓							
Outcome	OC-01	Value of investment in ICARDA agrifood systems research	✓	✓	✓	✓	✓	✓	✓	✓
Outcome	OC-02	Total budget	✓	✓	✓	✓	✓	✓	✓	✓
Outcome	OC-03	Number of ICARDA-supported masters and doctor of philosophy students going on to be employed	✓	✓	✓	✓	✓	✓	✓	✓
Outcome	OC-04	Realized genetic gains in farmer-relevant conditions		✓	✓					
Outcome	OC-05	Number of accessions accessed	✓							
Outcome	OC-06	Number of new or significantly updated policies, strategies, legal instruments, programs, budgets, or investments, partially or wholly informed by ICARDA research		✓			✓		✓	✓
Outcome	OC-07	Number of institutions using ICARDA-developed methods and recommendations	✓	✓*	✓*	✓*	✓*	✓	✓	✓*
Outcome	OC-08	Number of innovations (supported by ICARDA) being used by next users	✓	✓	✓	✓	✓	✓	✓	✓
Outcome	OC-09	Number of ICARDA-derived climate-resilient varieties released by NARS		✓						
Outcome	OC-10	Change in Weighted average varietal age in famers' fields		✓					✓	
Outcome	OC-11	Quantity of certified and quality-declared seed produced by public and private seed sector partners		✓						
Outcome	OC-12	Percent change in productivity of ICARDA-mandate crops, forages and livestock		✓*	✓					
Outcome	OC-13	Percent change in energy-use efficiency				✓				
Output	OP-01	Breeding response time to an outbreak		✓						
Output	OP-02	Number of trait-specific subsets developed and made available	✓							
Output	OP-03	Number of germplasm lines developed and transferred to NARS		✓						
Output	OP-04	Quantity of early generation seed produced		✓						
Output	OP-05	Number of innovations developed (/co-developed)	✓	✓	✓	✓	✓	✓	✓	✓
Output	OP-06	Number of policy and institutional recommendations developed			✓		✓		✓	
Output	OP-07	Number of knowledge products published	✓	✓	✓	✓	✓	✓	✓	✓

Result level	Indicator ID	Indicator statement	SRP 1	SRP 2	SRP 3	SRP 4	CCRP 1	CCRP 2	CCRP 3	CCRP 4
Output	OP-08	Number of studies & assessments conducted	✓	✓	✓	✓	✓	✓	✓	✓
Output	OP-09	Number of people participating in capacity development activities	✓	✓	✓	✓	✓	✓	✓	✓
Output	OP-10	Number of partner institutions whose personnel participate in ICARDA-led capacity development activities	✓	✓	✓	✓	✓	✓	✓	✓
Output	OP-11	Number of accessions added to Genebank	✓							
Output	OP-12	Number of partnerships established	✓	✓	✓	✓	✓	✓	✓	✓
Output	OP-13	Number of outreach events organized	✓	✓	✓	✓	✓	✓	✓	✓

Detailed Indicator Reference Sheets

Indicator IM-01: Number of people with improved income

Indicator reference #	IM-01	
Indicator statement	Number of people with improved income	
Definition	Number of people whose per capita income has been increased after ICARDA intervention/use of ICARDA-origin research outputs/innovations. All persons with net increase in income emanating directly from the intervention of ICARDA and partners are counted.	
Indicator type	Impact	
Unit of Measure	Number of people	
Desirable direction of change	Increase	
Indicator Disaggregates	Geographic location (national, sub-national) Gender (male, female) Poverty status (Below poverty line, above poverty line)	
	Derived indicators	
	Ref	**Statement of derived indicator**
	OM-01.1	Number of people assisted to exit poverty
Method of calculation	• The total income (from all enterprises) of all economically active members of the household is divided by the household size, to obtain the per capita income of the household. ***At baseline***: • Estimate the total household income from all enterprises • Divide total household income by number of household members to derive the baseline per capita income • Where applicable, compare the per capita income to the relevant poverty threshold. ***At subsequent/endline evaluation/study***: • Collect the same data again and compare against baseline or recall data. • Compute additional net income from ICARDA intervention (i.e putting into consideration the additional costs involved in adopting the ICARDA intervention) • Determine if there is a net increase in per capita income from adopting ICARDA-origin research outputs/innovations. • Count all the households with a positive value • To determine number of people lifted out of poverty, consider only the people whose per capita income was below the poverty threshold before ICARDA intervention, and determine whether the additional net income from the ICARDA intervention places them above the poverty threshold • Extrapolate the results to the extent that the study design permits	
Data sources	Farm households/ farms, value chain actors	
Data collection Method	Survey	

Data workflow	**Stage/ Process**	**Responsible**		
	Data collection	RASPS team, SWA team, MEL team, SEP team, Country Managers/Conveners		
	Data analysis	MEL team, SEP team		
	Reporting	MEL team		
Timeline	**Q1 (Jan-Mar)**	**Q2 (April-June)**	**Q3 (July-Sept)**	**Q4 (Oct-Dec)**
	Data collection Data analysis Reporting	Data collection Data analysis	Data collection Data analysis	Data collection Data analysis
Relevance	ICARDA Strategy	SRP 3: Create resilient livestock and rangeland systems for livelihoods and environmental health SRP 4: Foster resilient agrifood systems in the drylands for the benefit of communities		
	CGIAR Impact Area(s)	Impact Area 2: Poverty Reduction, Livelihoods and Jobs		
	SDG(s)	SDG 1: End poverty in all its forms everywhere		
Target audience & dissemination approach	**Audience**	**Dissemination strategy**		
	ICARDA staff	MEL newsletter, webinar		
	ICARDA BoT	BoT report and presentation		
	Donors and Partners	ICARDA annual report, presentations at events, and social media posts		
	Policy makers	Presentations at events, policy briefs and media outreach		

Indicator IM-02: Area of land under improved management

Indicator reference #	IM-02			
Indicator statement	Area of land under improved management			
Definition	Area under 'improved management' can be understood as the area of land that are positively affected by ICARDA innovations/innovation packages, including management practices. The improvements that are of interest to this indicator are those that improve vegetation cover or that increase efficiency in land and water resource management, productivity and soil conservation. Demonstration plots should not be counted as these are for experimental research purposes and do not represent changed behaviour among farmers or land managers.			
Indicator type	Impact			
Unit of Measure	Hectares			
Desirable direction of change	Increase			
Indicator Disaggregates	Nature of intervention (improved varieties, recommended agronomic management practices, soil conservation or reclamation, water saving/use) ○ If variety: variety identification method (DNA fingerprinting, expert opinion, visual aid protocols, self-reported, remote sensing) Area estimation method (self-reported, GPS measurement) Geographic location (sub-national, national/country, region)			
	Derived indicators			
	Ref	**Statement of derived indicator**		
	IM-02.1	Rangeland area managed using an integrated ecosystem models		
	IM-02.2	Hectares covered by new varieties		
Method of calculation	Summation			
Data sources	Farm households surveys, Staff of partner institutions, geographic information systems (GIS)			
Data collection Method	Surveys, email surveys and key informant interviews, GPS mapping and remote sensing			
Data workflow	**Stage/ Process**	**Responsible**		
	Collection	RASPS team, SWA team, SINH team, SEP team, GeoAgro team, country conveners/managers, MEL team		
	Analysis	RASPS team, SWA team, SEP team, MEL team		
	Reporting	MEL team		
Timeline	**Q1 (Jan-Mar)**	**Q2 (April-June)**	**Q3 (July-Sept)**	**Q4 (Oct-Dec)**
	Data collection Data analysis Reporting	Data collection Data analysis	Data collection Data analysis	Data collection Data analysis
Relevance	ICARDA Strategy	SRP 3: Create resilient livestock and rangeland systems for livelihoods and environmental health		

		SRP 4: Foster resilient agrifood systems in the drylands for the benefit of communities
	CGIAR Impact Area(s)	Environmental Health & Biodiversity
	SDG(s)	SDG 15: Life on land
Target audience & dissemination approach	**Audience**	**Dissemination strategy**
	ICARDA staff	MEL newsletter, webinar
	ICARDA BoT	BoT report and presentation
	Donors and Partners	ICARDA annual report, presentations at events, social media posts
	Policy makers	Presentations at events, policy briefs and media outreach
Comments and limitations	There is no absolute threshold in the determination of the "improvement" to the land. There may be different levels of "improvement" – that is there might be a larger area with a less degree of "improvement" in one way, and another smaller area with a lesser degree of "improvement" and yet both are added together, and the larger area potentially gaining more importance irrespective of the degree of "improvement".	

Indicator IM-03: Percent change in water productivity

<table>
<tr><td>Indicator reference #</td><td>IM-03</td></tr>
<tr><td>Indicator statement</td><td>Percent change in water productivity</td></tr>
<tr><td>Definition</td><td>This indicator estimates the percentage difference in water productivity in agrifood systems in the non-tropical drylands over a specified period.
Water productivity is defined as the agricultural output (beneficial biomass production or yield, or monetary value of produce) per unit of water supplied (herein referred to as basic productivity) or used (herein referred to as advanced productivity).
Water used is the amount of water directly consumed by the agricultural system, that is, evaporation and transpiration (otherwise known as the actual evapotranspiration) and virtual water, i.e water ingested by livestock from off-farm feed supply.
Crop: Crop output implies the dry weight of grains/seeds.
Livestock: Livestock output implies both milk and meat, where applicable.
Water-use: To determine the quantity of water supplied, consider all water sources, i.e. rainfall and/or irrigation (whether from surface water or groundwater).</td></tr>
<tr><td>Indicator type</td><td>Impact</td></tr>
<tr><td>Unit of Measure</td><td>Percentage change</td></tr>
<tr><td>Desirable direction of change</td><td>Increase</td></tr>
<tr><td>Indicator Disaggregates</td><td>• Innovation type (production systems innovation, genetic innovation, social science innovation, biophysical research innovation, innovative methods and tools)
• Farming system (rainfed crop production, irrigated crop production, agro-pastoral farming and desert farming)
○ If crop, main crop (Chickpea, Lentil, Faba beans, grass pea, Spring Barley, Winter barley, Durum wheat, Spring Bread wheat, Winter bread wheat)
○ If livestock, main livestock (goat, sheep)
• Geographical location (country, sub-national)</td></tr>
<tr><td></td><td>Derived indicators
<table>
<tr><th>Ref</th><th>Statement of derived indicator</th></tr>
<tr><td>IM-03.1</td><td>Percent change in Biophysical water productivity (Basic)</td></tr>
<tr><td>IM-03.2</td><td>Percent change in Biophysical water productivity (Advanced)</td></tr>
<tr><td>IM-03.3</td><td>Percent change in economic water productivity (Basic)</td></tr>
<tr><td>IM-03.4</td><td>Percent change in economic water productivity (Advanced)</td></tr>
<tr><td>IM-03.5</td><td>Percent change in Livestock water productivity</td></tr>
</table></td></tr>
<tr><td>Method of calculation</td><td>The percent change in water productivity is calculated as shown in (1) below:
$$\text{Percent }(\%)\text{ change in WP} = \left(\frac{\text{new WP Value} - \text{Old WP value}}{\text{Old WP value}}\right) \times 100 \quad \ldots\ldots\ldots\ldots\ldots (1)$$
Where:
New WP value is the estimate of WP for the period under consideration,
Old WP value is the estimate of WP for base period.

A. Computing the Basic form of these indicators requires the following steps:
Biophysical water productivity (Basic) is calculated by dividing the crop (and livestock) output by the volume of water supplied as in equation (2).</td></tr>
</table>

	$$WP_{BB} = \frac{crop\ (and\ Livestock)\ output}{Volume\ of\ water\ supplied}$$ ..... (2) **Economic Water Productivity (Basic)** is calculated by multiplying the beneficial biomass by the market price, subtracting the financial production costs of all inputs except water, and dividing the figure by the volume of water consumed (Eq. 3). $$WP_{EB} = \frac{(Crop\ and/or\ livestock\ output \times Market\ Price\ per\ unit) - Production\ cost}{Water\ supplied}$$ ....(3) B. **To compute the advanced form of water productivity the following additional data should be collected**: **Biophysical water productivity (Advanced)** is calculated by dividing the crop (and livestock) output by the volume of water consumed, as in equation (4). $$WP_{BA} = \frac{crop\ (and\ Livestock)\ output}{Volume\ of\ water\ consumed}$$ ..... (4) **Economic Water Productivity (Advanced)** value is calculated by multiplying the beneficial biomass (yield) by the market price, subtracting the financial production costs of all inputs except water, and dividing the figure by the volume of water consumed (Eq. 5). $$WP_{EA} = \frac{(Crop\ (and\ livestock)\ output \times Market\ price\ per\ unit) - Production\ cost}{Volume\ of\ water\ consumed}$$ .....(5)
Data sources	Farm households, weather stations, Geographic Information Systems (GIS)
Data collection Method	Farm household surveys, e-mail survey and key informant desk <u>Crop-specific data collection notes</u>: Output estimation methos may include whole plot harvest, crop cut method, farmer recall, farmer prediction, sampling of harvest units, expert assessment, crop diary and crop diary with telephone calls, crop cards, crop modelling. <u>Livestock-specific data collection notes</u>: Measure water volumes used to produce forage; forage biomass from irrigated plots; and the annual output of milk and live weight gain obtained per farm. • To determine forage biomass, weigh plant samples harvested from each plot within a 1 m² quadrat at each harvest. Compute the nutrients (net energy and digestible protein) supplied by the biomass by using appropriate conversion factors from reputable publications that closely match the area of study. • Milk volumes and live weight gains should be recorded for each farm. • Milk used by suckler calves should not be taken into account since it is considered an intermediary input for live weight gain. <u>Basic water-use measurement notes</u>: • Measure total irrigation and rainfall amount for each site/ area during the crop/livestock growing season/cycle. It is recommended that water volumes be

<table>
<tr><td></td><td colspan="4">estimated through frequent measurement of water supply from points of supply (e.g wells) and at the entry point of irrigated plots, and combined with regular enquiries about the durations of irrigation applications.
• Rainfall data ought to be obtained from the nearest meteorological station.

<u>Advanced water-use measurement notes:</u>
In addition, collect data on:
• Soil water content, water use/loss, soil evaporation losses, and evapotranspiration. Measure soil moisture before seeding and at harvest at 3 different soil depths 0-30 cm, 30-60 cm and 60-90 cm;
• Calculate soil evaporation loss during the cropping season.
<u>Livestock-specific data collection notes</u>: In addition, obtain data on:
• Off-farm feed resources such as dietary rations (forage and concentrate) consumed by lactating cows and growing calves.
• The equivalent virtual water corresponding to off-farm feed resources (mainly cereal grains and bran)- calculated based on conversion factors from reputable publications.</td></tr>
<tr><td rowspan="4">Data workflow</td><td>Stage/ Process</td><td colspan="3">Responsible</td></tr>
<tr><td>Collection</td><td colspan="3">SWA team, SEP team, MEL team</td></tr>
<tr><td>Analysis</td><td colspan="3">SWA team, SEP team, MEL team</td></tr>
<tr><td>Reporting</td><td colspan="3">MEL</td></tr>
<tr><td rowspan="2">Timeline</td><td>Q1 (Jan-Mar)</td><td>Q2 (April-June)</td><td>Q3 (July-Sept)</td><td>Q4 (Oct-Dec)</td></tr>
<tr><td>Data collection
Data analysis
Reporting</td><td>Data collection
Data analysis</td><td>Data collection
Data analysis</td><td>Data collection
Data analysis</td></tr>
<tr><td rowspan="3">Relevance</td><td>ICARDA Strategy</td><td colspan="3">SRP 4: Foster resilient agrifood systems in the drylands for the benefit of communities</td></tr>
<tr><td>CGIAR Impact Area(s)</td><td colspan="3">Environmental Health and Biodiversity (EHB)</td></tr>
<tr><td>SDG(s)</td><td colspan="3">SDG 1: No poverty
SDG 2: Zero hunger
SDG 13: Climate Action</td></tr>
<tr><td rowspan="4">Target audience & dissemination approach</td><td>Audience</td><td colspan="3">Dissemination strategy</td></tr>
<tr><td>ICARDA staff</td><td colspan="3">MEL newsletter, webinar</td></tr>
<tr><td>ICARDA BoT</td><td colspan="3">BoT report and presentation</td></tr>
<tr><td>Donors and Partners</td><td colspan="3">ICARDA annual report, presentations at events, social media posts</td></tr>
<tr><td></td><td>Policy makers</td><td colspan="3">Presentations at events, policy briefs and media outreach</td></tr>
<tr><td>Comments and limitations</td><td colspan="4">A reliable land use map is critical to relate geographically the actual evapotranspiration and biomass production data from remote sensing to the different land uses.
The time-period over which water productivity value is estimated is determined by the agricultural production cycle governing the cropping system for a particular crop. Typically, this involves at least one complete crop cycle, and for some crops, this may be a full year. The calculation of the water productivity value may require observations across several agricultural production cycles to derive estimates of average water productivity, as such the reporting for this indicator may not be frequent.</td></tr>
</table>

	Both price and production cost per agricultural output can only be calculated if the prices are observable, i.e there are market prices and no use of family labour or that family labour is compensated at a fair market rate. are known. In cases where the prices are unobservable, imputing these variables may result in inaccuracies.

Indicator IM-04: Number of people using ICARDA innovations

Indicator reference #	IM-04			
Indicator statement	Number of people using ICARDA innovations			
Definition	The number of end-users reporting to have used an ICARDA-promoted innovation. ICARDA innovations are new or significantly improved (adaptive) outputs or groups of outputs - including management practices, knowledge or technologies. Innovations could also refer to significant research findings (such as pertaining release of varieties), methods or tools (Applications for collecting data e.g IDMS for ICARDA). Besides tracking the use of ICARDA-led innovations generally, a sub-indicator to this indicator tracks the use of climate adaptation solutions developed/promoted by ICARDA. Climate adaptation solutions are those that help reduce vulnerability to the current or expected impacts of climate change like weather extremes and hazards, sea-level rise, biodiversity loss, or food and water insecurity. Such solutions include planting crop varieties that are more resistant to drought and practicing regenerative agriculture, improving water storage and use, managing land to reduce wildfire risks, and building stronger defences against extreme weather like floods and heat waves, among others.			
Indicator type	Outcome			
Unit of Measure	Number			
Desirable direction of change	Increase			
Indicator Disaggregates	Gender of user (Male, Female) User age category (Youth, Non-youth) Innovation type (production systems, genetic innovation, social science innovation, innovative biophysical research, innovative methods and tools) Geographic location (country, sub-national)			
	Derived indicators			
	Ref	**Statement of derived indicator**		
	IM-04.1	Number of people using ICARDA-developed climate adaptation solutions		
Method of calculation	Summation			
Data sources	Value chain actors, farm households, Staff of partner institutions			
Data collection Method	Email survey and key informant interviews, field survey			
Data workflow	**Stage/ Process**	**Responsible**		
	Collection	Breeding team, MEL team, RASPS team, SEP team, SINH team, SWA team		
	Analysis	SEP team, MEL team		
	Reporting	MEL team		
Timeline	**Q1 (Jan-Mar)**	**Q2 (April-June)**	**Q3 (July-Sept)**	**Q4 (Oct-Dec)**
	Data collection Data analysis Reporting	Data collection Data analysis	Data collection Data analysis	Data collection Data analysis

Relevance	ICARDA Strategy	SRP 2: Develop climate-smart crops for secure, profitable farming amid changing climates SRP 3: Create resilient livestock and rangeland systems for livelihoods and environmental health SRP 4: Foster resilient agrifood systems in the drylands for the benefit of communities CCRP 1: Climate change science CCRP 2: Data science and machine learning CCRP 3: Socio-economic analysis of innovations CCRP 4: Gender equality, youth, and social inclusion
	CGIAR Impact Area(s)	Nutrition, health and food security Poverty reduction, livelihoods and jobs Gender equality, youth and social inclusion Climate adaptation and mitigation Environmental health and biodiversity
	SDG(s)	SDG 1: No poverty SDG 2: Zero hunger SDG 5: Gender equality SDG 6: Clean water and sanitation SDG 13: Climate action SDG 15: Life on land SDG 17: Partnerships for the goals
Target audience & dissemination approach	**Audience**	**Dissemination strategy**
	ICARDA staff	MEL newsletter, webinar
	ICARDA BoT	BoT report and presentation
	Donors and Partners	ICARDA annual report, presentations at events, social media posts
	Policy makers	Presentations at events, policy briefs and media outreach

Indicator IM-05: Number of plant genetic accessions available and safely duplicated

Indicator reference #	IM-05			
Indicator statement	Number of plant genetic accessions available and safely duplicated			
Definition	The indicator measures the number of plant genetic accessions available for distribution by ICARDA genebanks and safely duplicated at two levels in reliable genebanks around the world. Plant genetic resources refer to the overall genetic diversity of the cultivated and wild plant species, which have actual or potential value and can contribute to the improvement of crops. An accession is a distinct, uniquely identifiable sample of seeds representing a cultivar, breeding line or a population, which is maintained in storage for conservation and use. Safety duplication is defined as a duplicate of a base collection stored under similar conditions for long-term conservation, but at a different location to insure against accidental loss of material from the base collection.			
Indicator type	Impact			
Unit of Measure	Number			
Desirable direction of change	Increase			
Indicator Disaggregates	Crop (barley, faba bean, lentil, kabuli chickpea, date palm, forage legumes, grasspea/lathyrus, spineless cactus, wheat)			
Method of calculation	Summation			
Data sources	GRS team			
Data collection Method	Routine recording			
Data workflow	**Stage/ Process**	**Responsible**		
	Collection	GRS team, MEL team		
	Analysis	GRS team, MEL team		
	Reporting	MEL team		
Timeline	**Q1 (Jan-Mar)**	**Q2 (April-June)**	**Q3 (July-Sept)**	**Q4 (Oct-Dec)**
	Data collection Data analysis Reporting	Data collection Data analysis	Data collection Data analysis	Data collection Data analysis
Relevance	ICARDA Strategy	SRP 1: Conserve and deploy plant genetic diversity in drylands for future food and crop challenges		
	CGIAR Impact Area(s)	Environmental health and biodiversity		
	SDG(s)	SDG 1: No poverty SDG 2: Zero hunger		
Target audience & dissemination approach	**Audience**	**Disemination strategy**		
	ICARDA staff	MEL newsletter, webinar		
	ICARDA BoT	BoT report and presentation		
	Donors and Partners	ICARDA annual report, presentations at events, social media posts		

	Policy makers	Presentations at events, policy briefs and media outreach

Indicator OC-01: Value of investment in ICARDA agrifood systems research

Indicator reference #	OC-01				
Indicator statement	Value of investment in ICARDA agrifood systems research				
Definition	The indicator includes new, short- and long-term investment by donors in ICARDA programs and projects. This indicator counts only the money disbursed to ICARDA and not simply a commitment or written agreement. A sub-indicator to this indicator specifically tracks funds from new partnerships. The funds considered in the sub-indicators are those from partners who have never funded ICARDA research before or who last funded ICARDA at least 10 years preceding the reporting period.				
Indicator type	Outcome				
Unit of Measure	USD millions				
Desirable direction of change	Increase				
Indicator Disaggregates	Geographic scope (Global, region, country, sub-national) Research team				
	Derived indicators				
	Ref	**Statement of derived indicator**			
	OC-01.1	Funds from new partnerships			
Method of calculation	Summation of all funds disbursements to ICARDA				
Data sources	Finance team, OCS				
Data collection Method	Routine recording, desk review				
Data workflow	**Stage/ Process**	**Responsible**			
	Collection	Finance team, MEL team			
	Analysis	Finance team, MEL team			
	Reporting	MEL team			
Timeline	**Q1 (Jan-Mar)**	**Q2 (April-June)**	**Q3 (July-Sept)**	**Q4 (Oct-Dec)**	
	Data collection Data analysis Reporting	Data collection Data analysis	Data collection Data analysis	Data collection Data analysis	
Relevance	ICARDA Strategy	SRP 1: Conserve and deploy plant genetic diversity in drylands for future food and crop challenges SRP 2: Develop climate-smart crops for secure, profitable farming amid changing climates SRP 3: Create resilient livestock and rangeland systems for livelihoods and environmental health SRP 4: Foster resilient agrifood systems in the drylands for the benefit of communities CCRP 1: Climate change science CCRP 2: Data science and machine learning CCRP 3: Socio-economic analysis of innovations CCRP 4: Gender equality, youth, and social inclusion			

	CGIAR Impact Area(s)	Nutrition, health and food security Poverty reduction, livelihoods and jobs Gender equality, youth and social inclusion Climate adaptation and mitigation Environmental health and biodiversity
	SDG(s)	SDG 1: No poverty SDG 2: Zero hunger SDG 5: Gender equality SDG 6: Clean water and sanitation SDG 13: Climate action SDG 15: Life on land SDG 17: Partnerships for the goals
Target audience & dissemination approach	**Audience**	**Dissemination strategy**
	ICARDA staff	MEL newsletter, webinar
	ICARDA BoT	BoT report and presentation
	Donors and Partners	ICARDA annual report, presentations at events, social media posts
	Policy makers	Presentations at events, policy briefs and media outreach

Indicator OC-02: Total budget

Indicator reference #	OC-02			
Indicator statement	Total budget			
Definition	Amount of funds spent by ICARDA programs, projects and management directly or indirectly through partners			
Indicator type	Outcome			
Unit of Measure	USD millions			
Desirable direction of change	Increase			
Indicator Disaggregates	Geographic scope (Global, region, country, sub-national) Research team			
Method of calculation	Summation of all funds disbursed from all BUSs			
Data sources	Finance team, OCS			
Data collection Method	Routine recording, desk review			
Data workflow	**Stage/ Process**	**Responsible**		
	Collection	Finance team, MEL team		
	Analysis	Finance Team, MEL team		
	Reporting	MEL team		
Timeline	**Q1 (Jan-Mar)**	**Q2 (April-June)**	**Q3 (July-Sept)**	**Q4 (Oct-Dec)**
	Data collection Data analysis Reporting	Data collection	Data collection	Data collection
Relevance	ICARDA Strategy	SRP 1: Conserve and deploy plant genetic diversity in drylands for future food and crop challenges SRP 2: Develop climate-smart crops for secure, profitable farming amid changing climates SRP 3: Create resilient livestock and rangeland systems for livelihoods and environmental health SRP 4: Foster resilient agrifood systems in the drylands for the benefit of communities CCRP 1: Climate change science CCRP 2: Data science and machine learning CCRP 3: Socio-economic analysis of innovations CCRP 4: Gender equality, youth, and social inclusion		
	CGIAR Impact Area(s)	Nutrition, health and food security Poverty reduction, livelihoods and jobs Gender equality, youth and social inclusion Climate adaptation and mitigation Environmental health and biodiversity		
	SDG(s)	SDG 1: No poverty SDG 2: Zero hunger SDG 5: Gender equality		

		SDG 6: Clean water and sanitation SDG 13: Climate action SDG 15: Life on land SDG 17: Partnerships for the goals
Target audience & dissemination approach	**Audience**	**Dissemination strategy**
	ICARDA staff	MEL newsletter, webinar
	ICARDA BoT	BoT report and presentation
	Donors and Partners	ICARDA annual report, presentations at events, social media posts
	Policy makers	Presentations at events, policy briefs and media outreach

Indicator OC-03: Number of ICARDA-supported Masters & Doctor of Philosophy students going on to be employed

Indicator reference #	OC-03			
Indicator statement	Number of ICARDA-supported Masters & Doctor of Philosophy students going on to be employed			
Definition	The indicator measures career progression of the recipients of ICARDA long-term capacity development support leading to the award of master's degrees and PhDs. Individuals to be counted are those who receive career placements/jobs with sub-national, national, regional or international institutions in the agri-food systems transformation sector for a period of service not less than 6 months.			
Indicator type	Outcome			
Unit of Measure	Number			
Desirable direction of change	Increase			
Indicator Disaggregates	Gender (Male, Female) Field of study (Plant Breeding, Agricultural Economics, Water/Irrigation Engineering, Rangeland Ecology and Conservation, Livestock Management, Soil Science, Gender) Geographic location/scope of employer (sub-national, national/country, regional, global)			
Method of calculation	The formulae we put here is one that computes the percent of respondents that got employed multiplied by the total number supported $\%\ of\ respondents\ employed = \frac{Number\ responding\ \text{"yes" to whether they have received an offer for atleast 6 months' job}}{Total\ number\ of\ respondents}$ *No. of ICARDA-supported MSc & PhD students going on to be employed* $= \%_{employed} \times Total\ number\ of\ student\ supported for\ Master\ or\ Phd\ Studies\ during\ period$			
Data sources	Alumni of ICARDA-supported individual degree programs			
Data Collection Method	Email survey and key informant interviews			
Data workflow	**Stage/ Process**	**Responsible**		
	Collection	CDU, MEL team		
	Analysis	CDU, MEL team		
	Reporting	MEL team		
Timeline	**Q1 (Jan-Mar)**	**Q2 (April-June)**	**Q3 (July-Sept)**	**Q4 (Oct-Dec)**
	Data collection Data analysis Reporting	Data collection Data analysis	Data collection Data analysis	Data collection Data analysis
Relevance	ICARDA Strategy	SRP 1: Conserve and deploy plant genetic diversity in drylands for future food and crop challenges SRP 2: Develop climate-smart crops for secure, profitable farming amid changing climates		

		SRP 3: Create resilient livestock and rangeland systems for livelihoods and environmental health SRP 4: Foster resilient agrifood systems in the drylands for the benefit of communities CCRP 1: Climate change science CCRP 2: Data science and machine learning CCRP 3: Socio-economic analysis of innovations CCRP 4: Gender equality, youth, and social inclusion
	CGIAR Impact Area(s)	Nutrition, health and food security Poverty reduction, livelihoods and jobs Gender equality, youth and social inclusion Climate adaptation and mitigation Environmental health and biodiversity
	SDG(s)	SDG 1: No poverty SDG 2: Zero hunger SDG 5: Gender equality SDG 6: Clean water and sanitation SDG 13: Climate action SDG 15: Life on land SDG 17: Partnerships for the goals
Target audience & dissemination approach	**Audience**	**Dissemination strategy**
	ICARDA staff	MEL newsletter, webinar
	ICARDA BoT	BoT report and presentation
	Donors and Partners	ICARDA annual report, presentations at events, social media posts
	Policy makers	Presentations at events, policy briefs and media outreach
Comments and limitations	If capacity development recipients change their contact information or if the information provided was inaccurate or not stored well, this could lead to high non-response rates to the tracer study, hence affecting the accuracy of the indicator value.	

Indicator OC-04: Realized genetic gains in farmer-relevant conditions

<table>
<tr><td>Indicator reference #</td><td>OC-04</td></tr>
<tr><td>Indicator statement</td><td>Realized genetic gains in farmer-relevant conditions</td></tr>
<tr><td>Definition</td><td>This indicator is a measure of the change in average breeding value of a population over at least one cycle of selection for a particular trait or index of traits measured for a specific market segment within a breeding pipeline in farmer relevant conditions.
Realized genetic gains is measured using phenotypic data from time-representative samples of germplasm from a given stage of testing (early trials, late trials, varieties on registration trials, varieties on farmers' fields) evaluated either in the program across many years as the program evolves (historical data) or evaluated all together in an experiment (era trials).
Market segment: A group of farmers with common product needs, driven by consumer and processor requirements combined with a set of farmer requirements based on where and how the product is grown.
Breeding Pipeline: The sum of the breeding efforts (product design, crossing and screening, early-stage testing, late-stage testing, and on-farm testing) focused on a market segment or on a group of similar market segments with very similar target product profiles ending with the identification of distinct products for each market segment the pipeline is focused on.
Farmer-relevant conditions: These are field conditions of field trial (testing) sites that represent farmers environments, from which phenotypic data of target trait(s) are measured and therefore the data is predictive of that which would be observed in farmer's field.</td></tr>
<tr><td>Indicator type</td><td>Outcome</td></tr>
<tr><td>Unit of Measure</td><td>Percentage</td></tr>
<tr><td>Desirable direction of change</td><td>Increase</td></tr>
<tr><td>Indicator Disaggregates</td><td>Commodity (Crop, Livestock)
Crop (durum and spring bread wheat, barley, faba bean, lentil, kabuli chickpea, grasspea/lathyrus)
Livestock (Goats, Sheep))
Genetic unit [Hybrid, Inbred]
Stage of testing [early trials, late trials, n registration trials, farmers' fields]
Market segment (geographical scope)
Breeding pipelines
Trait
Derived indicators
<table>
<tr><th>Ref</th><th>Statement of derived indicator</th></tr>
<tr><td>OC-04.1</td><td>Realized genetic gains of ICARDA-mandated/target crops in farmer-relevant conditions</td></tr>
<tr><td>OC-04.2</td><td>Realized genetic gains of ICARDA-mandated/target livestock in farmer-relevant conditions</td></tr>
</table></td></tr>
<tr><td>Method of calculation</td><td>Crops: Realized genetic gain uses trial data generated by the regular stage-gate process and no additional trials are run (i.e., era trials) but instead, analysis of historical data is the standard.</td></tr>
</table>

<table>
<tr><td></td><td colspan="4">The following formula as described by Garrick, 2010; Laidig et al., 2014; Mackay et al., 2011; Piepho et al., 2014 is applied when using era trial information to compute for realized genetic gains:

$$Y = X\beta + Z_d u_d + Z_g u_g + \varepsilon$$

Where β is vector of fixed effects; u_d, u_g, ε are vector of random non-genetic, genetic and error effects; ; X, Z_d, Z_g are incidence matrices connecting observations with vectors of fixed and random effects
More details on the process of computing genetic gain for crops is provided in the Excellence in Breeding (EIB) Manual/Breeding Process Assesment.

Livestock:
The following formula as described by Areb et al., 2021; and Haile et al., 2020) is applied when using community–based breeding sites information to compute for realized genetic gains

$$Y = X\beta + Z_1 a + Z_2 m + Z_3 pe + e$$

where Y is a (N × 1) vector of observations; β is the vector of fixed effects of contemporary groups, birth type, birth year and sex of animal related to incidence matrix X; a is the vector of direct genetic effects related to incidence matrix Z_1; m is the vector of maternal genetic effects related to matrix Z_2; pe is the vector of maternal permanent environmental effects related to matrix Z_3; and e is the vector of random residuals.</td></tr>
<tr><td>Data sources</td><td colspan="4">Breeding team, RASPS team</td></tr>
<tr><td>Data collection Method</td><td colspan="4">Routine recording, desk review</td></tr>
<tr><td rowspan="4">Data workflow</td><td>Stage/ Process</td><td colspan="3">Responsible</td></tr>
<tr><td>Collection</td><td colspan="3">Breeding team, RASPS team</td></tr>
<tr><td>Analysis</td><td colspan="3">Breeding team, RASPS team, MEL team</td></tr>
<tr><td>Reporting</td><td colspan="3">MEL team</td></tr>
<tr><td rowspan="2">Timeline</td><td>Q1 (Jan-Mar)</td><td>Q2 (April-June)</td><td>Q3 (July-Sept)</td><td>Q4 (Oct-Dec)</td></tr>
<tr><td>Data collection
Data analysis
Reporting</td><td>Data collection
Data analysis</td><td>Data collection
Data analysis</td><td>Data collection
Data analysis</td></tr>
<tr><td rowspan="3">Relevance</td><td>ICARDA Strategy</td><td colspan="3">SRP 2: Develop climate-smart crops for secure, profitable farming amid challenging climates
SRP 3: Create resilient livestock and rangeland systems for livelihoods and environmental health</td></tr>
<tr><td>CGIAR Impact Area(s)</td><td colspan="3">Nutrition, health, and food security (NHFS)
Poverty reduction, livelihoods and jobs (PRLJ)
Climate change and mitigation (CAM)
Environmental health and biodiversity (EHB)</td></tr>
<tr><td>SDG(s)</td><td colspan="3">SDG1: No poverty
SDG 2: Zero hunger</td></tr>
</table>

Target audience & dissemination approach	**Audience**	**Dissemination strategy**
	ICARDA staff	MEL newsletter, webinar
	ICARDA BoT	BoT report and presentation
	Donors and Partners	ICARDA annual report, presentations at events, social media posts
	Policy makers	Presentations at events, policy briefs and media outreach
Comments and limitations	The method applied to measure realized genetic gain in crops uses era trial information can provide an accurate estimate of the true rate of genetic gain provided two important features of accurate estimates are carefully considered. These are connectivity among time-window entries and Target Population of Environment (TPE) coverage. TPE is the set of farms and future seasons in which the varieties produced by a breeding program will be grown. Although era trials can offer better connectivity for accurately estimating the true rate of genetic gain, sufficient common check entries, and pedigree kinship information can maintain this connectivity in historical data. This approach provides better TPE coverage and does not require additional trials. There is also a limitation in measuring realized genetic gain in crops in farmer fields although this measurement would be more accurate. The standard alternative approach is therefore to use experimental fields simulating farmers' relevant conditions. It is not always possible to have a complete annual cycle of measuring and reporting genetic gain in livestock, because of the time needed to get the livestock to marketable size/age and because there is no continuous livestock breeding programme as for crops (which are usually on station). The approach of measuring genetic gain in livestock requires working with communities and is therefore more complicated.	

Indicator OC-05: Number of accessions accessed

Indicator reference #	OC-05				
Indicator statement	Number of accessions accessed				
Definition	The indicator measures the number of accessions distributed by ICARDA's genebanks within and outside CGIAR. The number does not include distributions for safety duplications. An accession is a distinct uniquely identifiable sample of botanic seeds representing a cultivar, breeding line or a population of a particular plant species, which is maintained in storage for conservation and use. Distribution is the process of supplying samples of germplasm accessions to breeders and other users.				
Indicator type	Outcome				
Unit of Measure	Number				
Desirable direction of change	Increase				
Indicator Disaggregates	Crop Species Biological status Recipient typology (within ICARDA, CGIAR center or program, Outside CGIAR) Country User category				
	Derived indicators				
	Ref	**Statement of derived indicator**			
	OC-05.1	Number of accessions distributed to research teams in ICARDA			
	OC-05.2	Number of accessions distributed outside ICARDA but within CGIAR			
	OC-05.3	Number of accessions distributed outside CGIAR			
Method of calculation	Summation				
Data sources	GRS team, GRS database/Genesys				
Data collection Method	Routine recording, desk review				
Data workflow	**Stage/ Process**	**Responsible**			
	Collection	GRS team, MEL team			
	Analysis	GRS team, MEL Team			
	Reporting	MEL Team			
Timeline	**Q1 (Jan-Mar)**	**Q2 (April-June)**	**Q3 (July-Sept)**	**Q4 (Oct-Dec)**	
	Data collection Data analysis Reporting	Data collection Data analysis	Data collection Data analysis	Data collection Data analysis	
Relevance	ICARDA Strategy	SRP 1: Conserve and deploy plant genetic diversity in drylands for future food and crop challenges			
	CGIAR Impact Area(s)	Environmental health and biodiversity Nutrition, health and food security			
	SDG(s)	SDG 2: Zero Hunger			

Target audience & dissemination approach	**Audience**	**Dissemination strategy**
	ICARDA staff	MEL newsletter, webinar
	ICARDA BoT	BoT report and presentation
	Donors and Partners	ICARDA annual report, presentations at events, social media posts
	Policy makers	Presentations at events, policy briefs and media outreach

Indicator OC-06: Number of new or significantly updated policies, strategies, legal instruments, programs, budgets, or investments partially or wholly informed by ICARDA research

Indicator reference #	OC-06			
Indicator statement	Number of new or significantly updated policies, strategies, legal instruments, programs, budgets, or investments partially or wholly informed by ICARDA research			
Definition	This indicator measures the number of policies, strategies, legal instruments, programs, budgets and/or investments at different scales that were modified in design or implementation, with evidence that the change was informed by ICARDA research. Policy is a deliberate system of guidelines to guide decisions and achieve rational outcomes A strategy is a plan of action designed to achieve a long-term goal. A legal instrument is a formal, written document used to create, modify, or transfer legal rights and obligations. It is a legally recognized written paper serving as evidence or confirmation of an agreement, transaction, or right. A budget or investment is an estimate of funds allocated or actual expenditure on an identified intervention.			
Indicator type	Outcome			
Unit of Measure	Number			
Desirable direction of change	Increase			
Indicator Disaggregates	Type (policy, legal instrument, strategy, program, budget or investment) Level of maturity (Level 1= Research taken up by next user (decision maker or intermediary; Level 2= Policy/Law enacted; Level 3= Evidence of impact on people and/or natural environment of the changed policy or investment) Geographic location (national, sub-national)			
Method of calculation	Summation of the count of policies, strategies, legal instruments, programs, budgets, or investments partially or wholly informed by ICARDA research			
Data sources	Staff of partner research institutions, all ICARDA research teams			
Data collection Method	Email survey and key informant interviews, routine recording			
Data workflow	**Stage/ Process**	**Responsible**		
	Collection	Country convener/managers, Research team leaders, MEL team		
	Analysis	MEL team, Research team leaders		
	Reporting	MEL team		
Timeline	**Q1 (Jan-Mar)**	**Q2 (April-June)**	**Q3 (July-Sept)**	**Q4 (Oct-Dec)**
	Data collection Data analysis Reporting	Data collection Data analysis	Data collection Data analysis	Data collection Data analysis
Relevance	ICARDA Strategy	SRP 2: Develop climate-smart crops for secure, profitable farming amid changing climates CCRP 1: Climate change science		

		CCRP 3: Socio-economic analysis of innovations CCRP 4: Gender equality, youth, and social inclusion
	CGIAR Impact Area(s)	Nutrition, health and food security Poverty reduction, livelihoods and jobs Gender equality, youth and social inclusion Climate adaptation and mitigation Environmental health and biodiversity
	SDG(s)	SDG 1: No poverty SDG 2: Zero hunger SDG 5: Gender equality SDG 6: Clean water and sanitation SDG 13: Climate action SDG 15: Life on land SDG 17: Partnerships for the goals
Target audience & dissemination approach	**Audience**	**Dissemination strategy**
	ICARDA staff	MEL newsletter, webinar
	ICARDA Board	DDGR's report and presentation to the Board
	Donors and stakeholders	ICARDA annual report

Indicator OC-07: Number of institutions using ICARDA-developed methods and recommendations

Indicator reference #	OC-07			
Indicator statement	Number of institutions using ICARDA-developed methods and recommendations			
Definition	This indicator provides the number of institutions using or that have adopted wholly or partially, methods and recommendations developed or co-developed by ICARDA research. They can include scientific methods published in working papers, policy briefs or peer reviewed journals or recommendations thereof. The "institutions" include global, Institutional, regional, or science partners, NARES or country partners, NGOs, and associations with whom CGIAR engages to co-develop and scale innovative evidence-based solutions and technologies that benefit people and the planet.			
Indicator type	Outcome			
Unit of Measure	Generic number			
Desirable direction of change	Increase			
Indicator Disaggregates	Type (method, recommendation) Institutions typology (Institutional, regional or science partners, NARES or country partner, research institutions, universities, NGOs, associations) Geographic location/scope (Global, regional, national, sub-national)			
Method of calculation	Summation			
Data sources	Partner institution staff, research team reports, partner reports, journal articles, working papers			
Data Collection Method	email survey and key informant interviews, desk review			
Data Workflow	**Stage/ Process**	**Responsible**		
	Collection	All research teams, country managers/conveners, MEL team		
	Analysis	MEL team		
	Reporting	MEL team		
Timeline	**Q1 (Jan-Mar)**	**Q2 (April-June)**	**Q3 (July-Sept)**	**Q4 (Oct-Dec)**
	Data collection Data analysis Reporting	Data collection Data analysis	Data collection Data analysis	Data collection Data analysis
Relevance	ICARDA Strategy	SRP 1: Conserve and deploy plant genetic diversity in drylands for future food and crop challenges CCRP 2: Data science and machine learning CCRP 3: Socio-economic analysis of innovations		
	CGIAR Impact Area(s)	Nutrition, health and food security Poverty reduction, livelihoods and jobs Gender equality, youth and social inclusion		

		Climate adaptation and mitigation Environmental health and biodiversity
	SDG(s)	SDG 1: No poverty SDG 2: Zero hunger SDG 5: Gender equality SDG 6: Clean water and sanitation SDG 13: Climate action SDG 15: Life on land SDG 17: Partnerships for the goals
Target audience & dissemination approach	**Audience**	**Dissemination strategy**
	ICARDA staff	MEL newsletter, webinar
	ICARDA Board	DDGR's report and presentation to the Board
	Donors and stakeholders	ICARDA annual report

Indicator OC-08: Number of innovations (supported by ICARDA) being used by next users

Indicator reference #	OC-08				
Indicator statement	Number of innovations (supported by ICARDA) being used by next users				
Definition	The indicator is a count of ICARDA-promoted innovations being used by next users such as national partners and/or programs (NARES included) and CGIAR partners (universities, donors etc) ICARDA innovations are new or significantly improved (adaptive) outputs or groups of outputs - including management practices, knowledge or technologies. Innovations could also refer to significant research findings, methods or tools.				
Indicator type	Outcome				
Unit of Measure	Number				
Desirable direction of change	Increase				
Indicator Disaggregates	Innovation type (production systems, genetic innovation, social science innovation, innovative biophysical research, innovative methods and tools) Innovation status (new or improved) Geographic location (country, sub-national)				
	Derived indicators				
	Ref	**Statement of derived indicator**			
	OC-08.1	Climate adaptation solutions (supported by ICARDA) being used by next users			
Method of calculation	Summation				
Data sources	Project documents and reports, ICARDA research teams, partner institution staff				
Data collection Method	Document review, expert consultations				
Data workflow	**Stage/ Process**	**Responsible**			
	Collection	All research teams, Country Managers/Conveners, SEP team, MEL team			
	Analysis	MEL team, SEP team			
	Reporting	MEL team			
Timeline	**Q1 (Jan-Mar)**	**Q2 (April-June)**	**Q3 (July-Sept)**	**Q4 (Oct-Dec)**	
	Data collection Data analysis Reporting	Data collection Data analysis	Data collection Data analysis	Data collection Data analysis	
Relevance	ICARDA Strategy	SRP 1: Conserve and deploy plant genetic diversity in drylands for future food and crop challenges SRP 2: Develop climate-smart crops for secure, profitable farming amid changing climates SRP 3: Create resilient livestock and rangeland systems for livelihoods and environmental health SRP 4: Foster resilient agrifood systems in the drylands for the benefit of communities CCRP 1: Climate change science			

		CCRP 2: Data science and machine learning CCRP 3: Socio-economic analysis of innovations CCRP 4: Gender equality, youth, and social inclusion
	CGIAR Impact Area(s)	Nutrition, health and food security Poverty reduction, livelihoods and jobs Gender equality, youth and social inclusion Climate adaptation and mitigation Environmental health and biodiversity
	SDG(s)	SDG 1: No poverty SDG 2: Zero hunger SDG 5: Gender equality SDG 6: Clean water and sanitation SDG 13: Climate action SDG 15: Life on land SDG 17: Partnerships for the goals
Target audience & dissemination approach	**Audience**	**Dissemination strategy**
	ICARDA staff	MEL newsletter, webinar
	ICARDA Board	DDGR's report and presentation to the Board
	Donors and stakeholders	ICARDA annual report

Indicator OC-09: Number of ICARDA-derived climate-resilient varieties released by NARES

Indicator reference #	OC-09			
Indicator statement	Number of ICARDA-derived climate-resilient varieties released by NARES			
Definition	This indicator counts the new crop varieties released by National Agricultural Research and Extension Services (NARES) in ICARDA partner countries whose germplasm can be traced back to ICARDA-sourced breeding material. The varieties counted in this indicator are those that have enhanced tolerance to biotic and abiotic stresses and are intended to maintain or increase crop yields in the face of a range of challenges typical in dry regions. These crop varieties can flourish in areas where rainfall is low and erratic, offer greater and more stable yields, and have a higher tolerance to stress factors such as diseases, pests, drought, and extreme temperatures.			
Indicator type	Outcome			
Unit of Measure	Number			
Desirable direction of change	Increase			
Indicator Disaggregates	Crop (Chickpea, Lentil, Faba beans, grass pea, Spring Barley, Winter barley, Durum wheat, Spring Bread wheat, Winter bread wheat) Geographical location of partner (Country & region)			
Method of calculation	Summation			
Data sources	National partners, SINH and Breeding team reports			
Data collection Method	e-mails and key informant interviews, desk review			
Data workflow	**Stage/ Process**	**Responsible**		
	Collection	SINH team, Breeding team, country managers/conveners, MEL team		
	Analysis	MEL team		
	Reporting	MEL team		
Timeline	**Q1 (Jan-Mar)**	**Q2 (April-June)**	**Q3 (July-Sept)**	**Q4 (Oct-Dec)**
	Data collection Data analysis Reporting	Data collection Data analysis	Data collection Data analysis	Data collection Data analysis
Relevance	ICARDA Strategy	SRP2: Develop climate-smart crops for secure, profitable farming amid changing climates CCRP3: Socioeconomic Analysis of Innovations		
	CGIAR Impact Area(s)	Nutrition, Health, and Food Security Poverty Reduction, Livelihoods, and Jobs Climate Adaptation and Mitigation		
	SDG(s)	SDG 1- No poverty SDG 2- Zero hunger SDG13- Climate Action SDG 15- Life on Land SDG 17-Partnerships for the goals		

Target audience & dissemination approach	Audience	Dissemination strategy
	ICARDA staff	MEL newsletter, MEL webinars
	ICARDA Board	DDGR's report and presentation to the Board
	Donors and other stakeholders	ICARDA annual report

Indicator OC-10: Change in Weighted average varietal age in famers' fields

Indicator reference #	OC-10			
Indicator statement	Change in Weighted average varietal age in famers' fields for ICARDA-mandate/target crops and countries			
Definition	Weighted Average Varietal Age (WAVA) is a spatial metric used to assess varietal turnover in farmers' fields. Varietal age refers to the number of years since a crop variety was officially released. For landraces (without an official year of release date), varietal age is the number of years since it was first planted. The "weighted" part of WAVA accounts for the respective area planted to the varieties in a designated area of land. More widely adopted varieties have a greater impact on the overall WAVA calculation than less commonly used varieties.			
Indicator type	Outcome			
Unit of Measure	Years			
Desirable direction of change	Decrease			
Indicator Disaggregates	Crop (barley, faba bean, lentil, kabuli chickpea, date palm, forage legumes, grasspea/lathyrus, spineless cactus, wheat) Geographic location (national, sub-national)			
Method of calculation	WAVA is a spatial metric that requires 3 different data points for its calculation: varietal identity, area planted to variety (or seed volumes), year of release of variety. In each time, weighting by area planted to specific varieties and accounting for the sum of agricultural area for all varieties considered, WAVA calculates one number (expressed in years) for a given crop, time, and locality) $WAVA = \sum_i p_i R_i,$ where pi is the proportion of total area cultivated to improved varieties planted to variety i; and Ri is the number of years since the release of variety i.			
Data sources	Farms/ farm households National variety release catalogues Seed production registries of public and private seed companies			
Data collection Method	Surveys, desk review			
Data workflow	**Stage/ Process**	**Responsible**		
	Data collection	SINH team, SEP team, Country Managers/Conveners, MEL team.		
	Data analysis	SINH team, SEP team, MEL team		
	Reporting	MEL team		
Timeline	**Q1 (Jan-Mar)**	**Q2 (April-June)**	**Q3 (July-Sept)**	**Q4 (Oct-Dec)**
	Data collection Data analysis Reporting	Data collection Data analysis	Data collection Data analysis	Data collection Data analysis
Relevance	ICARDA Strategy	SRP 2: Develop climate-smart crops for secure, profitable farming amid changing climates		

		CCRP3: Socioeconomic analysis of innovations
	CGIAR Impact Area(s)	Poverty Reduction, Livelihoods and Jobs Nutrition, health and food security Climate adaptation & mitigation Environmental health & biodiversity Gender equality, youth & social inclusion
	SDG(s)	SDG 1: No poverty SDG 3: Good health and well-being SDG 5: Gender equality SDG 13: Climate action
Target audience & dissemination approach	**Audience**	**Dissemination strategy**
	ICARDA staff	MEL newsletter, MEL webinars
	ICARDA Board	DDGR's report and presentation to the Board
	Donors and other stakeholders	ICARDA annual report
Comments and limitations	While a single WAVA calculation is a spatial representation of agricultural systems, varietal turnover can only be measured when two WAVA values for the *same crop and locality* are compared over time. If, after accounting for regular ageing of varieties, WAVA in time *t* is smaller/younger than WAVA in time *t-x*, varietal turnover is effectively increasing (i.e., as average varietal age decreases) The following key assumptions hold: 1. Older varieties to be replaced are inferior (in terms of yields, adaptability, etc.) to the newly introduced and younger varieties 2. Faster rate of varietal turnover enhances productivity 3. Lower WAVA reflects better access and choice If area data is unavailable for specific varietal observations, these can be excluded from the WAVA calculation, which will, in turn, reduce the representativeness of the calculation. If seed production data is used, the WAVA weights the varietal age of years by seed volumes produced for each variety	

Indicator OC-11: Quantity of certified and quality-declared seed produced by public and private seed sector partners

Indicator reference #	OC-11	
Indicator statement	Quantity of certified and quality-declared seed produced by public and private seed sector partners	
Definition	This indicator measures the volume of quality seed available to farmers for general crop production. **Certified seed**: This class of seed is produced from foundation or registered seed and is available to farmers for general crop production. It is produced by seed companies on contract with selected farmer seed growers who have experience and capacity to produce the certified seed. This helps to maintain varietal purity. Production of certified seed is subjected to field inspection and laboratory seed testing for approval by a certifying agency. A certification process ensures that these seeds are free from seed-borne diseases and physical contaminants, have high germination and varietally pure to meet performance criteria. **Quality Declared Seeds (QDS)** is seed which is produced and distributed through a formal seed system, where quality is assured partially through the certification agencies and partially through the reputational identity of the commercial seed producer groups as prescribed in the quality assurance scheme of the countries. **Public and private seed sector partners:** Refer to any global, regional and sub-regional and national agricultural research centers, Small and Medium Sized Enterprises, international and national development partners and practitioners, government and NGOs and farmers that play a crucial role in the promotion and development of efficient seed systems collaborating with CGIAR/ICARDA research teams and in alignment with ICARDA strategic objectives.	
Indicator type	Outcome	
Unit of Measure	Metric Tonnes (MT)	
Desirable direction of change	Increase	
Indicator Disaggregates	Seed class (Certified seed; Quality declared seed) Seed producer type (Private seed companies; Community-based seed groups/Farmer groups, Government/Public seed companies) Years or Crop seasons Location (national, sub-national)	
Method of calculation	Summation	
Data sources	Seed companies, community-based seed enterprises/Farmer groups	
Data collection Method	e-mail surveys & key informant interviews, desk review	
Data workflow	**Stage/ Process**	**Responsible**
	Collection	SINH team, SEP team, Country Managers/Conveners, MEL team
	Analysis	SINH team, SEP team, MEL team
	Reporting	MEL team

Timeline	**Q1 (Jan-Mar)**	**Q2 (April-June)**	**Q3 (July-Sept)**	**Q4 (Oct-Dec)**
	Data collection Data analysis Reporting	Data collection Data analysis	Data collection Data analysis	Data collection Data analysis
Relevance	ICARDA Strategy	SRP 2: Develop climate-smart crops for secure, profitable farming amid changing climates CCRP3: Socioeconomic analysis of innovations		
	CGIAR Impact Area(s)	Poverty Reduction, Livelihoods and Jobs Nutrition, health and food security Climate adaptation & mitigation		
	SDG(s)	SDG 1: No poverty SDG 13: Climate action		
Target audience & dissemination approach	**Audience**	**Dissemination strategy**		
	Donors	ICARDA annual report		
	ICARDA Partners	Workshop presentations,		
	ICARDA BoT	BoT report, and presentation		

Indicator OC-12: Percent change in productivity of ICARDA-mandate crops, forages and livestock

Indicator reference #	OC-12	
Indicator statement	Percent change in productivity of ICARDA-mandate crops, forages and livestock	
Definition	This indicator tracks the percentage change in productivity of crops, forages and livestock. Productivity is the measure of the total output of production of an agricultural commodity (crop, forages, fish, milk, eggs, and live animal offtake) divided by the total number of units used in production (hectares planted of crops or forages, number of animals in the herd/flock for live animals, number of producing cows or hens for diary or poultry, area for pond aquaculture and volume of cage for cage aquaculture).	
Indicator type	Outcome	
Unit of Measure	Percent	
Desirable direction of change	Increase	
Indicator Disaggregates	Commodity *(*crops, forages and livestock) If crop (barley, faba bean, lentil, kabuli chickpea, date palm, grasspea/lathyrus, wheat) If forages (forage legumes, spineless cactus) If livestock (goat, sheep) Farming system (rainfed crop production, irrigated crop production, agro-pastoral farming, desert farming) Geographic location (national, sub-national)	
	Derived indicators:	
	Ref	**Statement of derived indicator**
	OC12.1	Percent change in productivity of crops
	OC-12.2	Percent change in productivity forages
	OC-12.3	Percent change in productivity of livestock
Method of calculation	$$Percent\ change\ in\ productivity_i = \frac{Productivity\ at\ t_{1i} - Productivity\ at\ t_{0i}}{Energy\ use\ efficiency\ at\ t_{0i}}$$ $$Productivity_i = \frac{Total\ output\ of\ production_i}{Total\ of\ inputs_i}$$ Where t_0 is the baseline/reference period, t_1 is the subsequent period during/after intervention, i is the commodity. For mixed enterprises (production of more than one commodity) a weighted average will be computed using the share of the units in production as weights, ensuring that the weighting metric are in the same SI units.	
Data sources	Farms/ farm households	
Data collection Method	Surveys, desk review	
Data workflow	**Stage/ Process**	**Responsible**

	Collection	Resilient Agro-silvo-pastoral Systems (RASPS) team, Social Economy and Policy Research (SEP) team, Seed Systems, International Nurseries and Seed Health (SINH) team, Monitoring, Evaluation and Learning (MEL) team		
	Analysis	MEL team, SEP team		
	Reporting	MEL team		
Timeline	**Q1 (Jan-Mar)**	**Q2 (April-June)**	**Q3 (July-Sept)**	**Q4 (Oct-Dec)**
	Data collection Data analysis Reporting	Data collection Data analysis	Data collection Data analysis	Data collection Data analysis
Relevance	ICARDA Strategy	SRP 2: Develop climate-smart crops for secure, profitable farming amid changing climates SRP 3: Create resilient livestock and rangeland systems for livelihoods and environmental health		
	CGIAR Impact Area(s)	Climate adaptation and mitigation Environmental health and biodiversity Nutrition, health and food security		
	SDG(s)	SDG 1: No poverty SDG 2: Zero hunger		
Target audience & dissemination approach	**Audience**	**Dissemination strategy**		
	ICARDA staff	MEL newsletter and webinars		
	ICARDA Board	DDGR's report to the ICARDA Board		
	ICARDA partners and stakeholders	ICARDA annual report and social media		

Indicator OC-13: Percent change in energy-use efficiency

Indicator reference #	0C-13			
Indicator statement	Percent change in energy-use efficiency			
Definition	The percent change in the quantity of energy used in agricultural production. The indicator is used to track the trend of energy input per area cultivated or per unit yield. Whereas agricultural production relies on both direct and indirect energy use, this indicator measures only the direct consumption of fuel and electricity to execute different crop production practices.			
Indicator type	Outcome			
Unit of Measure	Percent			
Desirable direction of change	Increase			
Indicator Disaggregates	Innovation type (production systems innovation, genetic innovation, social science innovation, biophysical research innovation, innovative methods and tools) Farming system (rainfed crop production, irrigated crop production, agro-pastoral farming and desert farming) If crop, Main crop (Chickpea, Lentil, Faba beans, grass pea, Spring Barley, Winter barley, Durum wheat, Spring Bread wheat, Winter bread wheat) If livestock, main livestock type (goat, sheep) Geographical location (country, sub-national)			
Method of calculation	$\text{Percent change in energy use efficiency} = \frac{\text{Energy use efficiency at } t_1 - \text{Energy use efficiency at } t_0}{\text{Energy use efficiency at } t_0}$ $\text{Energy use efficiency} = \frac{\text{Total energy used (GJ)}}{\text{Cultivation area (Ha)}} \text{OR} \frac{\text{Total energy used (GJ)}}{\text{Total production (t)}}$ Where t_o is the baseline/reference period, while t_1 is the subsequent period during/after intervention			
Data sources	Farm households/farms			
Data collection Method	Survey, desk review			
Data workflow	**Stage/ Process**	**Responsible**		
	Collection	Soils, Water, and Agronomy (SWA) team, Social Economy and Policy Research (SEP), Monitoring, Evaluation and Learning (MEL) team		
	Analysis	SWA team, SEP team, MEL team		
	Reporting	MEL team		
Timeline	**Q1 (Jan-Mar)**	**Q2 (April-June)**	**Q3 (July-Sept)**	**Q4 (Oct-Dec)**
	Data collection Data analysis Reporting	Data collection Data analysis	Data collection Data analysis	Data collection Data analysis
Relevance	ICARDA Strategy	SRP 4: Foster resilient livestock and rangeland systems for livelihoods and environmental health		
	CGIAR Impact Area(s)	Environmental Health & Biodiversity (EHB) Climate Adaptation & Mitigation (CAM)		

	SDG(s)	Goal 13: Climate Action
Target audience & dissemination approach	**Audience**	**Dissemination strategy**
	ICARDA staff	MEL newsletter and webinars
	ICARDA Board	DDGR's report to the ICARDA Board
	ICARDA partners and stakeholders	ICARDA annual report and social media
Comments and limitations	The indicator does not account for the indirect use of energy for the production of agricultural inputs, such as fertilizers or pesticides. Whereas this may appear as a limitation, measuring the trend in the direct energy use contributes significantly to the understanding of the contribution of ICARDA-led energy saving innovations.	

Indicator OP-01: Breeding response time to an outbreak

Indicator reference #	OP-01			
Indicator statement	**Breeding response time to an outbreak**			
Definition	**Breeding response time** is the duration it takes for the ICARDA breeding program to release a new variety/germplasm or breed that national breeders can use to multiply and release varieties that are resistant to a declared or eminent outbreak. **Outbreaks** are the sudden appearance of threats, such as diseases, pests, or environmental changes in a particular geographic area that significantly threaten plant/animal health, agricultural productivity, and food security.			
Indicator type	Output			
Unit of Measure	Months			
Desirable direction of change	Decrease			
Indicator Disaggregates	Crop (Chickpea, Lentil, Faba beans, grass pea, Spring Barley, Winter barley, Durum wheat, Spring Bread wheat, Winter bread wheat) Geographic location (country, sub-national)			
Method of calculation	Count of months from outbreak declaration to germplasm distribution to national partners			
Data sources	Breeding teams			
Data collection Method	Routine recording, desk review			
Data workflow	**Stage/ Process**	**Responsible**		
	Collection	Breeding team		
	Analysis	Breeding team, MEL team		
	Reporting	MEL team		
Timeline	**Q1 (Jan-Mar)**	**Q2 (April-June)**	**Q3 (July-Sept)**	**Q4 (Oct-Dec)**
	Data collection Data analysis Reporting	Data collection Data analysis	Data collection Data analysis	Data collection Data analysis
Relevance	ICARDA Strategy	SRP 2: Develop climate-smart crops for secure, profitable farming amid changing climates		
	CGIAR Impact Area(s)	Nutrition, Health and Food Security		
	SDG(s)	SDG 1: No Poverty SDG 2: Zero Hunger		
	Audience	**Dissemination strategy**		

Target audience & dissemination approach	ICARDA staff	MEL newsletter and webinars
	ICARDA Board	DDGR's report to the ICARDA Board
	ICARDA partners and stakeholders	ICARDA annual report and social media

Indicator OP-02: Number of trait-specific subsets developed and made available

Indicator reference #	OP-02			
Indicator statement	Number of trait-specific subsets developed and made available			
Definition	This indicator measures the trait-specific subsets made available on Genesys. These constitute subsets from the genebanks' collection selected using Focused Identification of Germplasm Strategy (FIGS), in response to requests made to ICARDA for accessions of specified traits. Genesys is an online platform where users can find information about Plant Genetic Resources for Food and Agriculture (PGRFA) conserved in genebanks worldwide. It therefore enables users to search for accessions conserved at ICARDA's genebank using complex queries that involves passport, environmental, and phenotypic criterion to find, select, and request interesting gene that meets their purposes whether it is for research or for development of new verities. Focused Identification of Germplasm Strategy (FIGS) is a method that uses detailed information about the environment from which plant genetic samples were collected to precisely predict where plant traits – such as disease resistance or adaptability to extreme weather conditions – are likely to have evolved. Accessions from these areas have a higher probability to contain the traits and genes of interest. From this calculation are assembled smaller subsets of genetic material that have a high potential to contain the plant traits that breeders need to develop their robust new varieties. Focused Identification of Germplasm Strategy (FIGS) can be combined with other techniques such as Genomic Selection, Genome-wide association studies (GWAS), and Environmental-wide association studies (eWAS). A trait is defined as a recognizable quality or attribute resulting from interaction of a gene or a group of genes with the environment.			
Indicator type	Output			
Unit of Measure	Number			
Desirable direction of change	Increase			
Indicator Disaggregates	Crop (barley, faba bean, lentil, kabuli chickpea, date palm, forage legumes, grasspea/lathyrus, spineless cactus, wheat)			
Method of calculation	Summation			
Data sources	GRS team, Genesys			
Data collection Method	Routine recording, desk review			
Data workflow	**Stage/ Process**	**Responsible**		
	Collection	GRS team		
	Analysis	GRS team, MEL team		
	Reporting	MEL team		
Timeline	**Q1 (Jan-Mar)**	**Q2 (April-June)**	**Q3 (July-Sept)**	**Q4 (Oct-Dec)**
	Data collection Data analysis	Data collection Data analysis	Data collection Data analysis	Data collection Data analysis

	Reporting			
Relevance	ICARDA Strategy	SRP 1: Conserve and deploy plant genetic diversity in drylands for future food and crop challenges		
	CGIAR Impact Area(s)	Environmental health and biodiversity		
	SDG(s)	SDG 2- Zero Hunger		
Target audience & dissemination approach	**Audience**	**Dissemination strategy**		
	ICARDA staff	MEL newsletter, MEL webinar		
	ICARDA Board	DDGR's report to the ICARDA Board		
	ICARDA partners and stakeholders	ICARDA annual report and social media		

Indicator OP-03: Number of germplasm lines developed and transferred to NARS

Indicator reference #	OP-03			
Indicator statement	Number of germplasm lines developed and transferred to NARS			
Definition	This indicator counts the total number of germplasm lines developed by ICARDA's breeding teams and which are delivered to the National Agricultural Research Systems (NARS) of ICARDA's collaborating partner countries upon requests made by the NARS. Developed germplasm lines are improved germplasm lines with new combinations of desirable traits developed from diverse sources of germplasm through hybridization and, selection for greater trait diversity, and screening for traits. These improved germplasm lines can be exploited as parents for the genetic improvement of a crop by breeding programs. Germplasm transfer, also referred to as germplasm distribution, is the process of supplying samples of ICARDA-developed germplasm accessions based on CGIAR Intellectual Assets Principles. They are made available by means of the Standard Material Transfer Agreement (SMTA). These germplasm lines are qualified for transfer to NARS if they meet the requested trait thresholds.			
Indicator type	Output			
Unit of Measure	Number			
Desirable direction of change	Increase			
Indicator Disaggregates	Crop (barley, faba bean, lentil, kabuli chickpea, date palm, forage legumes, grasspea/lathyrus, spineless cactus, wheat) Attribute (adaptation to climate extremes, biofortified) Partner/ Recipient institution Country of transfer			
Method of calculation	Summation			
Data sources	Breeding team, SINH team			
Data collection Method	Routine recording, desk review			
Data workflow	**Stage/ Process**	**Responsible**		
	Collection	Breeders		
	Analysis	MEL team		
	Reporting	MEL team		
Timeline	**Q1 (Jan-Mar)**	**Q2 (April-June)**	**Q3 (July-Sept)**	**Q4 (Oct-Dec)**
	Data collection Data analysis Reporting	Data collection	Data collection	Data collection
Relevance	ICARDA Strategy	SRP 2: Develop climate-smart crops for secure, profitable farming amid changing climates		

	CGIAR Impact Area(s)	Environmental Health and Biodiversity (EHB)
	SDG(s)	SDG 1-No poverty SDG 2- Zero hunger SDG 13- Climate Action SDG 15 – Life on Land SDG 17-Partnerships for the goals
Target audience & dissemination approach	**Audience**	**Dissemination strategy**
	ICARDA staff	MEL newsletter, MEL webinar
	ICARDA Board	DDGR's report to the ICARDA Board
	ICARDA partners and stakeholders	ICARDA annual report and social media

Indicator OP-04: Quantity of early generation seed produced

Indicator reference #	OP-04			
Indicator statement	Quantity of early generation seed produced			
Definition	This indicator measures the specific volume of seeds produced in the categories of breeder, basic, and pre-basic seeds in the targeted countries by breeders of institutions collaborating as ICARDA partners and are given to farmers. ''Early generation seed'' means the essential link between breeding operations and the ultimate production and distribution of varieties to farmers, which includes breeder seed, pre-basic seed, and basic seed. Early generation seed is the foundation for producing high quality seed of subsequent generations ''Breeder seed" means the initial source of seed and is usually produced by the breeder or his assigned representative. It is the source for the production of pre-basic or basic seed. ''Pre-basic seed" means the progeny of breeder seed and is usually produced in larger volume than breeder seed while being overseen by a team of breeders and technology multipliers as well as a seed quality control agency. ''Basic seed" means the progeny of breeder or pre-basic seed and is usually produced under the supervision of a technological multiplication team as well as under the control of a seed quality control agency			
Indicator type	Output			
Unit of Measure	Kilograms			
Desirable direction of change	Increase			
Indicator Disaggregates	Geographic location (national)			
Method of calculation	Summation			
Data sources	NARES partners			
Data collection Method	Email survey and key informant interviews			
Data workflow	**Stage/ Process**	**Responsible**		
	Collection	SINH team, MEL team, Country managers/conveners		
	Analysis	SINH team, MEL team		
	Reporting	MEL team		
Timeline	**Q1 (Jan-Mar)**	**Q2 (April-June)**	**Q3 (July-Sept)**	**Q4 (Oct-Dec)**
	Data collection Data analysis Reporting	Data collection Data analysis	Data collection Data analysis	Data collection Data analysis
Relevance	ICARDA Strategy	SRP 2: Develop climate-smart crops for secure, profitable farming amid changing climates		
	CGIAR Impact Area(s)	Poverty Reduction, Livelihoods and Jobs Nutrition, health and food security Climate adaptation & mitigation		

		Environmental health & biodiversity
	SDG(s)	SDG 1: No Poverty SDG 2: Zero Hunger SDG 13: Climate action
Target audience & dissemination approach	**Audience**	**Dissemination strategy**
	ICARDA staff	MEL newsletter, MEL webinar
	ICARDA Board	DDGR's report to the ICARDA Board
	ICARDA partners and stakeholders	ICARDA annual report and social media

Indicator OP-05: Number of innovations developed (co-developed)

<table>
<tr><td>Indicator reference #</td><td colspan="4">OP-05</td></tr>
<tr><td>Indicator statement</td><td colspan="4">Number of innovations developed (co-developed)</td></tr>
<tr><td>Definition</td><td colspan="4">Research and development innovations are new or significantly improved (adaptive) outputs or groups of outputs - including management practices, knowledge or technologies. Innovations could also refer to a significant research findings, methods or tools.
A significant improvement is one that allows the management practice, knowledge or technology to serve a new purpose or a new class of users to employ it, for example a new variety, a blend of fertilizer for a particular soil type, or a tool modified to suit a particular management practice.
In many circumstances, an innovation may be identical to an output, but outputs may also be grouped together as a single innovation. However, not all outputs can be deemed to be innovations.
This indicator will also be used to track innovations that specifically address climate adaptation. These will include innovations assessed and found to improve the ability of small-scale farmers to adapt to climate change-induced variations.</td></tr>
<tr><td>Indicator type</td><td colspan="4">Output</td></tr>
<tr><td>Unit of Measure</td><td colspan="4">Number</td></tr>
<tr><td>Desirable direction of change</td><td colspan="4">Increase</td></tr>
<tr><td rowspan="4">Indicator Disaggregates</td><td colspan="4">Innovation type (production systems, genetic innovation, social science innovation, innovative biophysical research, innovative methods and tools)
Innovation status (new or improved)
Geographic location (country, sub-national)</td></tr>
<tr><td colspan="4">Derived indicators</td></tr>
<tr><td>Ref</td><td colspan="3">Statement of derived indicator</td></tr>
<tr><td>OP-05.1</td><td colspan="3">Climate adaptation solutions developed</td></tr>
<tr><td>Method of calculation</td><td colspan="4">Summation</td></tr>
<tr><td>Data sources</td><td colspan="4">Breeding team, GRS team, GeoAgro team, RASPS team, SEP team, SINH team, SWA team</td></tr>
<tr><td>Data collection Method</td><td colspan="4">Routine recording,</td></tr>
<tr><td rowspan="4">Data workflow</td><td>Stage/ Process</td><td colspan="3">Responsible</td></tr>
<tr><td>Collection</td><td colspan="3">SINH team, RASPS team, GeoAgro team, SEP team, SWA team, Breeding team, GRS team, Country managers/conveners, MEL team</td></tr>
<tr><td>Analysis</td><td colspan="3">SEP team, MEL team</td></tr>
<tr><td>Reporting</td><td colspan="3">MEL team</td></tr>
<tr><td rowspan="2">Timeline</td><td>Q1 (Jan-Mar)</td><td>Q2 (April-June)</td><td>Q3 (July-Sept)</td><td>Q4 (Oct-Dec)</td></tr>
<tr><td>Data collection
Data analysis</td><td>Data collection
Data analysis</td><td>Data collection
Data analysis</td><td>Data collection
Data analysis</td></tr>
</table>

	Reporting			
Relevance	ICARDA Strategy	SRP 1: Conserve and deploy plant genetic diversity in drylands for future food and crop challenges SRP 2: Develop climate-smart crops for secure, profitable farming amid changing climates SRP 3: Create resilient livestock and rangeland systems for livelihoods and environmental health SRP 4: Foster resilient agrifood systems in the drylands for the benefit of communities CCRP 1: Climate change science CCRP 2: Data science and machine learning CCRP 3: Socio-economic analysis of innovations CCRP 4: Gender equality, youth, and social inclusion		
	CGIAR Impact Area(s)	Nutrition, health and food security Poverty reduction, livelihoods and jobs Gender equality, youth and social inclusion Climate adaptation and mitigation Environmental health and biodiversity		
	SDG(s)	SDG 1: No poverty SDG 2: Zero hunger SDG 5: Gender equality SDG 6: Clean water and sanitation SDG 13: Climate action SDG 15: Life on land SDG 17: Partnerships for the goals		
Target audience & dissemination approach	**Audience**	**Dissemination strategy**		
	ICARDA staff	MEL newsletter, webinar		
	ICARDA BoT	BoT report and presentation		
	Donors and Partners	ICARDA annual report, presentations at events, social media posts		
	Policy makers	Presentations at events, policy briefs and media outreach		

Indicator OP-06: Number of policy and institutional recommendations developed

Indicator reference #	OP-06			
Indicator statement	Number of policy and institutional recommendations developed			
Definition	ICARDA will measure the number of policies and institutional recommendations made by ICARDA Scientists following a study, analysis or synthesis of data on themes of interest in agrifood systems research. The recommendations can be based on empirical evidence, theoretical frameworks, and best practices.			
Indicator type	Output			
Unit of Measure	Number			
Desirable direction of change	Increase			
Indicator Disaggregates	Type of knowledge product (policy brief, presentation, outreach products/event reports) Geographic scope (global, region, national, sub-national)			
Method of calculation	Summation			
Data sources	ICARDA research teams Journal articles, policy briefs, outreach products/event reports			
Data collection Method	Routine recording, desk review			
Data workflow	**Stage/ Process**	**Responsible**		
	Collection	SINH team, RASPS team, GeoAgro team, SEP team, SWA team, Breeding team, GRS team, Country managers/conveners, MEL team		
	Analysis	MEL team		
	Reporting	MEL team		
Timeline	**Q1 (Jan-Mar)**	**Q2 (April-June)**	**Q3 (July-Sept)**	**Q4 (Oct-Dec)**
	Data collection Data analysis Reporting	Data collection Data analysis	Data collection Data analysis	Data collection Data analysis
Relevance	ICARDA Strategy	SRP 3: Create resilient livestock and rangeland systems for livelihoods and environmental health CCRP 1: Climate change science CCRP 3: Socio-economic analysis of innovations		
	CGIAR Impact Area(s)	Nutrition, health and food security Poverty reduction, livelihoods and jobs Gender equality, youth and social inclusion Climate adaptation and mitigation Environmental health and biodiversity		
	SDG(s)	SDG 1: No poverty SDG 2: Zero hunger SDG 5: Gender equality SDG 6: Clean water and sanitation		

		SDG 13: Climate action SDG 15: Life on land SDG 17: Partnerships for the goals
Target audience & dissemination approach	**Audience**	**Dissemination strategy**
	ICARDA staff	MEL newsletter, webinar
	ICARDA BoT	BoT report and presentation
	Donors and Partners	ICARDA annual report, presentations at events, social media posts
	Policy makers	Presentations at events, policy briefs and media outreach

Indicator OP-07: Number of knowledge products published

Indicator reference #	OP-07			
Indicator statement	Number of knowledge products published			
Definition	Knowledge products are intellectual assets generated from research and development activities that contribute to the enhancement of the knowledge and expertise on key themes stakeholders and ultimately contributes to behavioral changes essential to the achievement of stated objectives. This indicator encompasses all knowledge products published on the MEL Platform, MELSpace, and CGSpace in a calendar year. The sub-indicator on outreach products tracks knowledge products developed prior or after an outreach event, to support or evidence the outreach work. These may include factsheets, brochures, reports, presentations, flyers, videos, banners and social media posts.			
Indicator type	Output			
Unit of Measure	Number			
Desirable direction of change	Increase			
Indicator Disaggregates	Type: Audio, blog, brochure, image, news item/press item, newsletter, poster, presentation, video, website, wiki, book, book chapter, brief, conference paper, conference proceeding, dataset, journal article, manual, map, report, template, training material, working paper, and decision support tools. If Journal article classification: ISI, non-ISI Purpose of knowledge product: outreach, other Accessibility status: Open access, limited access			
	Derived indicators:			
	Ref	**Statement of derived indicator**		
	OP-07.1	Number of ISI publications		
	OP-07.2	Number of outreach products developed		
	OP-07.3	Number of other information products/ data assets		
Method of calculation	Summation			
Data sources	All research teams MEL Platform, MELSpace, CGSpace, social media			
Data Collection Method	Routine recording, desk review			
Data workflow	**Stage/ Process**	**Responsible**		
	Collection	SINH team, RASPS team, GeoAgro team, SEP team, SWA team, Breeding team, GRS team, Country managers/conveners, CDU, Communications team, MEL team		
	Analysis	MEL team, Communications team		
	Reporting	MEL team		
Timeline	**Q1 (Jan-Mar)**	**Q2 (April-June)**	**Q3 (July-Sept)**	**Q4 (Oct-Dec)**
	Data collection Data Analysis Reporting	Data collection Data Analysis Reporting	Data collection Data Analysis Reporting	Data collection Data Analysis Reporting

Relevance	ICARDA Strategy	SRP 1: Conserve and deploy plant genetic diversity in drylands for future food and crop challenges SRP 2: Develop climate-smart crops for secure, profitable farming amid changing climates SRP 3: Create resilient livestock and rangeland systems for livelihoods and environmental health SRP 4: Foster resilient agrifood systems in the drylands for the benefit of communities CCRP 1: Climate change science CCRP 2: Data science and machine learning CCRP 3: Socio-economic analysis of innovations CCRP 4: Gender equality, youth, and social inclusion		
	CGIAR Impact Area(s)	Nutrition, health and food security Poverty reduction, livelihoods and jobs Gender equality, youth and social inclusion Climate adaptation and mitigation Environmental health and biodiversity		
	SDG(s)	SDG 1: No poverty SDG 2: Zero hunger SDG 5: Gender equality SDG 6: Clean water and sanitation SDG 13: Climate action SDG 15: Life on land SDG 17: Partnerships for the goals		
Target audience & dissemination approach	**Audience**	**Dissemination strategy**		
	ICARDA staff	MEL newsletter, webinar		
	ICARDA BoT	BoT report and presentation		
	Donors and Partners	ICARDA annual report, presentations at events, social media posts		
	Policy makers	Presentations at events, policy briefs and media outreach		

Indicator OP-08: Number of studies & assessments conducted

Indicator reference #	OP-08			
Indicator statement	**Number of studies & assessments conducted**			
Definition	Studies typically refer to systematic investigations, inquiries, or examinations aimed at gaining knowledge, insights, or understanding about a particular topic or subject. At ICARDA, studies encompass a wide range of in-depth analysis, experimentation, modelling, and other knowledge-seeking efforts aimed at advancing the research priorities. Assessments involve evaluations to determine quality, value, performance, or potentially linked to a thematic/focus. Assessments are often used to measure progress, identify strengths and weaknesses, or make decisions.			
Indicator type	Output			
Unit of Measure	Number			
Desirable direction of change	Increase			
Indicator Disaggregates	Research team (Breeding team, CDU, GRS team, GeoAgro team, MEL team, RASPS team, Research Ethics Committee, SEP team, SINH team, SWA team, Country managers/conveners) OECD DAC marker contribution (climate adaptation, climate mitigation, gender equality) If yes to any, Not targeted; Significant; Principal Geographical location/ scope (global, national, sub-national)			
	Derived indicators			
	Ref	**Statement of derived indicator**		
	OP-08.1	Number of gender transformative studies conducted		
Method of calculation	Summation			
Data sources	Research teams, ICARDA's Research Ethics Committee			
Data collection Method	Routine recording, desk review			
Data workflow	**Stage/ Process**	**Responsible**		
	Collection	Breeding team, CDU, GRS team, GeoAgro team, MEL team, RASPS team, Research Ethics Committee, SEP team, SINH team, SWA team, Country managers/conveners		
	Analysis	MEL team		
	Reporting	MEL team		
Timeline	**Q1 (Jan-Mar)**	**Q2 (April-June)**	**Q3 (July-Sept)**	**Q4 (Oct-Dec)**
	Data collection Data analysis Reporting	Data collection Data analysis	Data collection Data analysis	Data collection Data analysis
Relevance	ICARDA Strategy	This indicator is the measure of the extent to which "Studies" and "Assessments" are integral components of Research for Development (R4D) at ICARDA, thereby advancing the evidence base for future and demand-driven innovations for the transformation of agrifood systems in the dryland areas. It is relevant for all SRP and CCRPs:		

		SRP 1: Conserve and deploy plant genetic diversity in drylands for future food and crop challenges SRP 2: Develop climate-smart crops for secure, profitable farming amid changing climates SRP 3: Create resilient livestock and rangeland systems for livelihoods and environmental health SRP 4: Foster resilient agrifood systems in the drylands for the benefit of communities CCRP 1: Climate change science CCRP 2: Data science and machine learning CCRP 3: Socio-economic analysis of innovations CCRP 4: Gender equality, youth, and social inclusion
	CGIAR Impact Area(s)	Nutrition, health and food security Poverty reduction, livelihoods and jobs Gender equality, youth and social inclusion Climate adaptation and mitigation Environmental health and biodiversity
	SDG(s)	SDG 1: No poverty SDG 2: Zero hunger SDG 5: Gender equality SDG 6: Clean water and sanitation SDG 13: Climate change SDG 15: Life on land SDG 17: Partnership for the goals
Target audience & dissemination approach	**Audience**	**Dissemination strategy**
	ICARDA staff	MEL newsletter, webinar
	ICARDA BoT	BoT report and presentation
	Donors and Partners	ICARDA annual report, presentations at events, social media posts
	Policy makers	Presentations at events, policy briefs and media outreach

Indicator OP-09: Number of people participating in capacity development activities

Indicator reference #	OP-09			
Indicator statement	Number of people participating in capacity development activities			
Definition	The number of individuals that participated and **completed** capacity development activities, including degree programs, internships, training courses, and workshops in a calendar year. This indicator does not include people still enrolled on the capacity development program.			
Indicator type	Output			
Unit of Measure	Numbers			
Desirable direction of change	Increase			
Indicator Disaggregates	Type (Individual capacity development-early & mid-career [Bachelors & Masters], Individual capacity development- advanced career [PhD], Capacity Sharing [non-degree]) Gender (Male, Female) Geographic location (national, sub-national)			
	Derived indicators			
	Ref	**Statement of derived indicator**		
	OP-09.1	Number of people supported through individual capacity building activities (Bachelors, MSc)		
	OP-09.2	Number of PhDs defended		
	OP-09.3	Number of people that participated in non-degree capacity sharing activities		
Method of calculation	Summation			
Data sources	Breeding team, CDU, Country managers/conveners, GRS team, GeoAgro team, MEL team, RASPS team, SEP team, SINH team, SWA team			
Data Collection Method	Routine recording			
Data Workflow	**Stage/ Process**	**Responsible**		
	Collection	Breeding team, CDU, Country managers/conveners, GRS team, GeoAgro team, MEL team, RASPS team, SEP team, SINH team, SWA team		
	Analysis	CDU, MEL team		
	Reporting	MEL team		
Timeline	**Q1 (Jan-Mar)**	**Q2 (April-June)**	**Q3 (July-Sept)**	**Q4 (Oct-Dec)**
	Data collection Data analysis Reporting	Data collection Data analysis	Data collection Data analysis	Data collection Data analysis
Relevance	ICARDA Strategy	Capacity development and sharing is integral to the delivery and scaling of science and innovation for development		

		SRP 1: Conserve and deploy plant genetic diversity in drylands for future food and crop challenges SRP 2: Develop climate-smart crops for secure, profitable farming amid changing climates SRP 3: Create resilient livestock and rangeland systems for livelihoods and environmental health SRP 4: Foster resilient agrifood systems in the drylands for the benefit of communities CCRP 1: Climate change science CCRP 2: Data science and machine learning CCRP 3: Socio-economic analysis of innovations CCRP 4: Gender equality, youth, and social inclusion
	CGIAR Impact Area(s)	Nutrition, health and food security Poverty reduction, livelihoods and jobs Gender equality, youth and social inclusion Climate adaptation and mitigation Environmental health and biodiversity
	SDG(s)	SDG 1: No poverty SDG 2: Zero hunger SDG 5: Gender equality SDG 6: Clean water and sanitation SDG 13: Climate change SDG 15: Life on land SDG 17: Partnership for the goals
Target audience & dissemination approach	**Audience**	**Dissemination strategy**
	ICARDA staff	MEL newsletter, webinar
	ICARDA BoT	BoT report and presentation
	Donors and Partners	ICARDA annual report, presentations at events, social media posts
	Policy makers	Presentations at events, policy briefs and media outreach
Comments and limitations	This indicator is a count of people trained by training theme at a particular time. It therefore should not be construed as a unique count of people trained. It is therefore not limited to a pre-determined population size.	

Indicator OP-10: Number of partner institutions whose personnel participate in ICARDA-led capacity development activities

Indicator reference #	OP-10				
Indicator statement	Number of partner institutions whose personnel participate in ICARDA-led capacity development activities				
Definition	The number of partners whose personnel have participated in capacity-sharing activities. For each event, the number of unique partner institutions listed as the affiliations of the attendees will be counted.				
Indicator type	Output				
Unit of Measure	Number				
Desirable direction of change	Increase				
Indicator Disaggregates	Type (Individual capacity development-early & mid-career [Bachelors & Masters], Individual capacity development- advanced career [PhD], Capacity Sharing [non-degree]) Partner type (Academic institutions, advanced research institutions, CGIAR Center/Program (Center), CGIAR Research Program and Platforms, Community based organizations, Farmers, Financing institutions, Government, International agricultural research centers, International development organizations, National agricultural research system, non-governmental organizations, Private sector, Regional and sub-regional organization) Geographic location (national, sub-national)				
	Derived indicators				
	Ref	**Statement of derived indicator**			
	OP-10.1	Number of partner institutions whose personnel participate in individual capacity building activities (Bachelors, Masters)			
	OP-10.2	Number of partner institutions whose personnel are supported for PhD studies			
	OP-10.3	Number of partner institutions whose personnel participate in non-degree capacity sharing activities			
Method of calculation	Summation				
Data sources	Breeding team, CDU, Country managers/conveners, GRS team, GeoAgro team, MEL team, RASPS team, SEP team, SINH team, SWA team				
Data Collection Method	Routine recording				
Data Workflow	**Stage/ Process**	**Responsible**			
	Collection	Breeding team, CDU, Country managers/conveners, GRS team, GeoAgro team, MEL team, RASPS team, SEP team, SINH team, SWA team			
	Analysis	CDU, MEL team			
	Reporting	MEL team			
Timeline	**Q1 (Jan-Mar)**	**Q2 (April-June)**	**Q3 (July-Sept)**	**Q4 (Oct-Dec)**	

	Data collection Data analysis Reporting	Data collection Data analysis	Data collection Data analysis	Data collection Data analysis
Relevance	ICARDA Strategy	Capacity development and sharing is integral to the delivery and scaling of science and innovation for development SRP 1: Conserve and deploy plant genetic diversity in drylands for future food and crop challenges SRP 2: Develop climate-smart crops for secure, profitable farming amid changing climates SRP 3: Create resilient livestock and rangeland systems for livelihoods and environmental health SRP 4: Foster resilient agrifood systems in the drylands for the benefit of communities CCRP 1: Climate change science CCRP 2: Data science and machine learning CCRP 3: Socio-economic analysis of innovations CCRP 4: Gender equality, youth, and social inclusion		
	CGIAR Impact Area(s)	Nutrition, health and food security Poverty reduction, livelihoods and jobs Gender equality, youth and social inclusion Climate adaptation and mitigation Environmental health and biodiversity		
	SDG(s)	SDG 17: Partnership for the goals		
Target audience & dissemination approach	**Audience**	**Dissemination strategy**		
	ICARDA staff	MEL newsletter, webinar		
	ICARDA BoT	BoT report and presentation		
	Donors and Partners	ICARDA annual report, presentations at events, social media posts		
	Policy makers	Presentations at events, policy briefs and media outreach		

Indicator OP-11: Number of accessions added to Genebank

Indicator reference #	OP-11			
Indicator statement	Number of accessions added to Genebank This indicator statement is synonymous with the below statements and can thus be used interchangeably: Number of accessions received Number of accessions acquired This indicator tracks the unique accession identifiers assigned by the curators when the accessions are entered into the genebank system.			
Definition	This indicator provides a measure of the accessions added to ICARDA's genebank through collection missions, donations, and requests. An accession is a distinct uniquely identifiable sample of botanic seeds representing a cultivar, breeding line or a population of a particular plant species, which is maintained in storage for conservation and use. Acquisition is the process of collecting or requesting seeds for inclusion in the genebank, together with related information. The material should be legally acquired, be of high seed quality and properly documented. Acquisitions are done using the Food and Agricultural Organization (FAO) Germplasm Acquisition Agreement or Standard Material Transfer Agreement.			
Indicator type	Output			
Unit of Measure	Number			
Desirable direction of change	Increase			
Indicator Disaggregates	Crop (barley, faba bean, lentil, kabuli chickpea, date palm, forage legumes, grasspea/lathyrus, spineless cactus, wheat)			
Method of calculation	Summation			
Data sources	GRS team, GRS database			
Data collection Method	Routine recording, desk review			
Data workflow	**Stage/ Process**	**Responsible**		
	Collection	GRS team, MEL team		
	Analysis	GRS team, MEL team		
	Reporting	MEL team		
Timeline	**Q1 (Jan-Mar)**	**Q2 (April-June)**	**Q3 (July-Sept)**	**Q4 (Oct-Dec)**
	Data collection Data analysis Reporting	Data collection Data analysis	Data collection Data analysis	Data collection Data analysis
Relevance	ICARDA Strategy	SRP 1- Conserve and deploy plant genetic diversity in drylands for future food and crop challenges		
	CGIAR Impact Area(s)	Environmental health and biodiversity		
	SDG(s)	SDG 2- Zero Hunger		
	Audience	**Dissemination strategy**		

Target audience & dissemination approach	ICARDA staff	MEL newsletter, webinar
	ICARDA BoT	BoT report and presentation
	Donors and Partners	ICARDA annual report, presentations at events, social media posts
	Policy makers	Presentations at events, policy briefs and media outreach

Indicator OP-12: Number of partnerships established

Indicator reference #	OP-12			
Indicator statement	Number of partnerships established			
Definition	A partnership is a recognized relationship between ICARDA (and its constituent projects) and another institution or entity, with mutually agreed objectives, distinct accountabilities, and reciprocal obligations. The partnership may be formal (supported by a memorandum of agreement (MoA) or a memorandum of understanding (MoU) or informal (i.e with no MoA or MoU) but demonstrated through the co-authoring of knowledge products or co-development of innovations.			
Indicator type	Output			
Unit of Measure	Number			
Desirable direction of change	Increase			
Indicator Disaggregates	Partner type (Non-governmental organizations (NGO), Research organizations and universities, Financial organizations, Research), Government Financial institutions, Private companies (other than financial), Public-Private Partnerships, Association, Foundation) Type of partnership (Memorandum of Agreement (MoA), Memorandum of understanding (MoU), Non-formalised) Geographic location (Country, sub-national)			
	Derived indicators:			
	Ref	**Statement of derived indicator**		
	OP-12.1	Number of partnership agreements signed or renewed		
	OP-12.2	Number of knowledge generation partnerships		
	OP-12.3	Number of innovation development partnership		
Method of calculation	Summation			
Data sources	Breeding team, CDU, Communications team, Country managers/conveners, GRS team, GeoAgro team, MEL team, RASPS team, SEP team, SINH team, SWA team			
Data collection Method	Routine recording			
Data workflow	**Stage/ Process**	**Responsible**		
	Collection	Breeding team, CDU, Communications team, Country managers/conveners, GRS team, GeoAgro team, MEL team, RASPS team, SEP team, SINH team, SWA team, PGU/Finance team		
	Analysis	MEL team		
	Reporting	MEL team		
Timeline	**Q1 (Jan-Mar)**	**Q2 (April-June)**	**Q3 (July-Sept)**	**Q4 (Oct-Dec)**
	Data collection Data analysis Reporting	Data collection Data analysis	Data collection Data analysis	Data collection Data analysis

Relevance	ICARDA Strategy	Capacity development and sharing is integral to the delivery and scaling of science and innovation for development SRP 1: Conserve and deploy plant genetic diversity in drylands for future food and crop challenges SRP 2: Develop climate-smart crops for secure, profitable farming amid changing climates SRP 3: Create resilient livestock and rangeland systems for livelihoods and environmental health SRP 4: Foster resilient agrifood systems in the drylands for the benefit of communities CCRP 1: Climate change science CCRP 2: Data science and machine learning CCRP 3: Socio-economic analysis of innovations CCRP 4: Gender equality, youth, and social inclusion
	CGIAR Impact Area(s)	Nutrition, health and food security Poverty reduction, livelihoods and jobs Gender equality, youth and social inclusion Climate adaptation and mitigation Environmental health and biodiversity
	SDG(s)	SDG 17-Partnerships for the goals
Target audience & dissemination approach	**Audience**	**Dissemination strategy**
	ICARDA staff	MEL newsletter, webinar
	ICARDA BoT	BoT report and presentation
	Donors and Partners	ICARDA annual report, presentations at events, social media posts
	Policy makers	Presentations at events, policy briefs and media outreach
Comments and limitations	There is possibility for multiple counting of a partnership/partner if the same entity is involved in the various typologies of partnership arrangements, for example a partner co-authoring a knowledge product and also co-developing an innovation with ICARDA. However, in aggregate, it does make sense that all the dimensions of partnership are acknowledged and thus increase the count for the typologies in which a partner is involved.	

Indicator OP-13: Number of outreach events organized

Indicator reference #	OP-13			
Indicator statement	Number of events organized			
Definition	Outreach events are activities in which ICARDA engages and connects with external audiences to expand awareness of its work, build/strengthen partnerships and drive growth for both ICARDA and stakeholders. Such events include meetings, seminars, conventions, symposia, multi-stakeholder visits, donor visits, fundraising events, advocacy events, celebrations, commemorative events, festivals, exhibitions, fairs, shows, open days, and other events whose aim is to impart general knowledge and thus exclude trainings that are designed to improve the skills of attendees. This indicator does not include internal project/program planning and review meetings even when participants to those meetings include partner staff.			
Indicator type	Output			
Unit of Measure	Number			
Desirable direction of change	Increase			
Indicator Disaggregates	Outreach typology (outreach product, outreach event) If event, event type (meetings, seminars, conventions, symposia, multi-stakeholder visits, donor visits, fundraising events, advocacy events, celebrations, commemorative events, festivals, exhibitions, fairs, shows, open days) If product, product type (factsheets, brochure, reports, presentations, flyers, banners, social media post) Geographic location/scope (Global, national, sub-national)			
Method of calculation	Summation			
Data sources	Breeding team, CDU, Communications team, Country managers/conveners, GRS team, GeoAgro team, MEL team, RASPS team, SEP team, SINH team, SWA team, PGU/Finance team			
Data collection Method	Routine recording			
Data workflow	**Stage/ Process**	**Responsible**		
	Collection	Breeding team, CDU, Communications team, Country managers/conveners, GRS team, GeoAgro team, MEL team, RASPS team, SEP team, SINH team, SWA team, PGU/Finance team		
	Analysis	MEL team, Communications team		
	Reporting	MEL team		
Timeline	**Q1 (Jan-Mar)**	**Q2 (April-June)**	**Q3 (July-Sept)**	**Q4 (Oct-Dec)**
	Data collection Data analysis Reporting	Data collection Data analysis	Data collection Data analysis	Data collection Data analysis
Relevance	ICARDA Strategy	This indicator is the measure of the extent to which "Studies" and "Assessments" are integral components of Research for Development (R4D) at ICARDA, thereby advancing the evidence base for future and demand-driven innovations for		

		the transformation of agrifood systems in the dryland areas. It is relevant for all SRP and CCRPs: SRP 1: Conserve and deploy plant genetic diversity in drylands for future food and crop challenges SRP 2: Develop climate-smart crops for secure, profitable farming amid changing climates SRP 3: Create resilient livestock and rangeland systems for livelihoods and environmental health SRP 4: Foster resilient agrifood systems in the drylands for the benefit of communities CCRP 1: Climate change science CCRP 2: Data science and machine learning CCRP 3: Socio-economic analysis of innovations CCRP 4: Gender equality, youth, and social inclusion
	CGIAR Impact Area(s)	Nutrition, health and food security Poverty reduction, livelihoods and jobs Gender equality, youth and social inclusion Climate adaptation and mitigation Environmental health and biodiversity
	SDG(s)	SDG 1: No poverty SDG 2: Zero hunger SDG 5: Gender equality SDG 6: Clean water and sanitation SDG 13: Climate change SDG 15: Life on land SDG 17: Partnership for the goals
Target audience & dissemination approach	**Audience**	**Dissemination strategy**
	ICARDA staff	MEL newsletter, webinar
	ICARDA BoT	BoT report and presentation
	Donors and Partners	ICARDA annual report, presentations at events, social media posts
	Policy makers	Presentations at events, policy briefs and media outreach