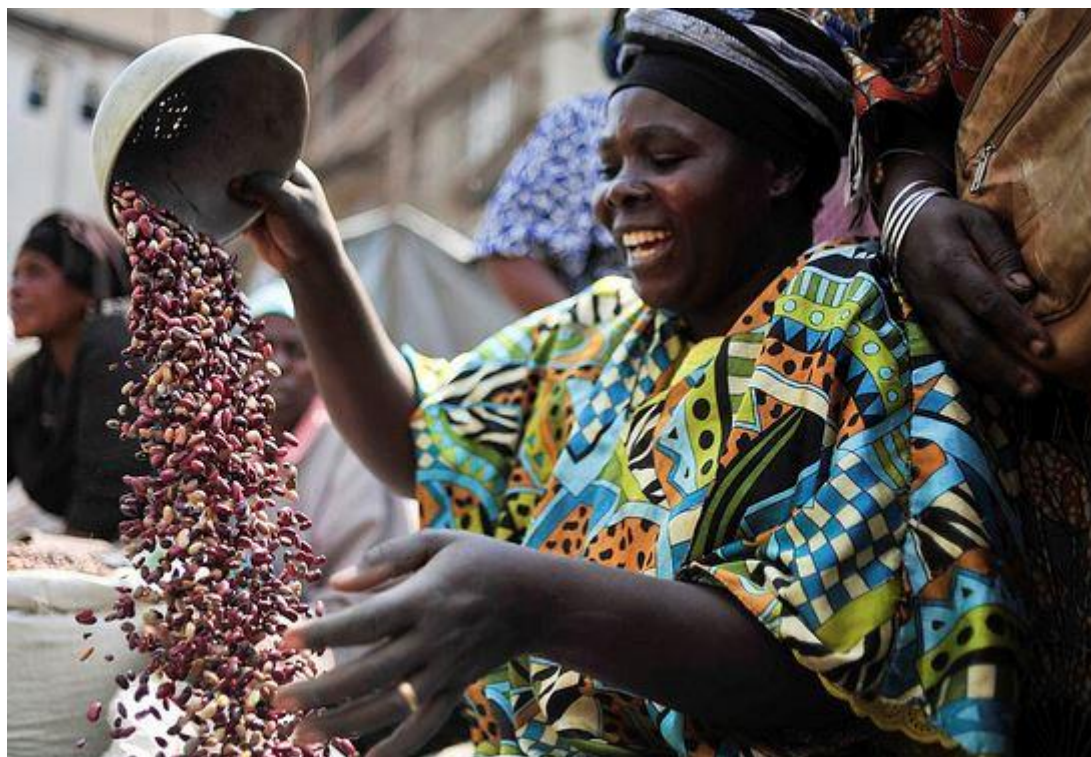




RESEARCH  
PROGRAM ON  
Dryland Systems



# 2016 Annual Performance Report

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## LIST OF ACRONYMS

AAS	CGIAR Research Program on Aquatic Agricultural Systems
ALS	Agricultural Livelihood Systems
ARIs	Advanced Research Institutes
CACILM	Central Asian Countries Initiative for Land Management
CapDev	Capacity Development
CAZRI	Central Arid Zone Research Institute
CCAFS	CGIAR Research Program on Climate Change, Agriculture and Food Security
CCEE	CRP Commissioned External Evaluation
CIHEAM	Centre International de Hautes Etudes Agronomiques Méditerranéennes
CO	Consortium Office
CoP	Community of Practice
COP	Conference of the Parties
CRP	CGIAR Research Program
CSO	Civil Society Organizations
DCL	CGIAR Research Program on Dryland Cereals
DCLAS	Dryland Cereals Legumes Agri-Food System
DFID	Department for International Development
ECBA	Extended Cost-Benefit Analysis
ELD	Economics of Land Degradation
EUE	Energy Use Efficiency
FFS	Farmer Field Schools
GO	Governmental Organization
IDOs	Intermediate Development Outcomes
IEA	Independent Evaluation Arrangement
IPs	Innovation Platforms
IRTs	Interdisciplinary Research Teams
ISAC	Independent Scientific Advisory Committee
ISAM	Integrated Systems Analysis and Modelling
ITF	Independent Task Force
LEIS	Local Environment Information System
M&E	Monitoring and Evaluation
MEL	Monitoring, Evaluation, and Learning
NARS	National Agricultural Research Systems
NAWA	North Africa and West Asia
NGO	Non-Governmental Organization
PMU	Program Management Unit
POWB	Plan of Work and Budget
RMC	Research Management Committee
R4D	Research for Development
S&I	Science and Implementation
SDGs	Sustainable Development Goals
SLA	Sustainable Livelihoods Approach
SLM	Sustainable Land Management
SLOs	System Level Outcomes
SO	System Office
VBSE	Village-Based Seed Enterprises
VCA	Value Chain Assessment
UNCCD	United Nations Convention to Combat Desertification
WLE	CGIAR Research Program on Water, Land and Ecosystems
WUE	Water Use Efficiency
WASDS	West African Sahel and Dry Savanna
WHT	Water Harvesting Techniques

## A. KEY MESSAGES

### A1. Synthesis of progress and challenges

In 2016, the CGIAR Research Program (CRP) on Dryland Systems (hereinafter referred as Dryland Systems or DS) was instructed to close down (along with the other systems CRPs on Humid Tropics and Aquatic Systems) while at the same time ensuring essential activities would be continued under one or more Phase II CRPs. A total budget of \$2 million was thus allocated to the CRP necessitating a revision of the original [POWB2016](#). To this effect, the CRP produced a close out plan against a background of a lack of a system-wide process for closing CRP's. Thus, DS was unique in producing such a [close out plan](#).

The Program Management Unit's (PMU) response to the close down of the DS was to organize a series of three 'legacy' papers that would stand to serve dryland and other ecosystem research in relation to major global challenges. Teams across CRP partners and external advanced research institutions subsequently produced the following papers that are currently at different stages of publication:

1. . A [New Dryland Development Paradigm](#) grounded in an empirical analysis of dryland systems science (currently being published in the journal Land Degradation & Development (Impact factor 8.1) (accepted for publication, open access manuscript)
2. [Analysis of the Threat of Land Degradation to Realizing the Sustainable Development Goals \(SDG\) and Recommended Remedies](#). A review of the role of land especially drylands, in the achievement of multiple SDGs (currently being finalized by CIAT and journal article preparation)
3. [Modalities for Scaling up Sustainable Land Management \(SLM\) and Restoration of Degraded Land](#). Paper submitted for inclusion in the UNCCD's forthcoming Global Land outlook series and in preparation for a journal article.

Staff of the CRP invested significant time, efforts and resources in the formulation of a CRP proposal that was meant to combine activities in drylands from the CRPs on Grain Legumes, Dryland Cereals and DS into Dryland Cereals Legumes Agri-Food System (DCLAS). We had anticipated that the systems orientated research that was core of the POWB2016, would form a strong basis for a future CRP on drylands as envisioned by the CO and the CGIAR Strategic Plan and the B rating received by the ISPC (CGIAR strategic plan 2015). This followed the comments from the 2015 CCEE, done by the Independent Evaluation Arrangement (IEA), that *"Dryland Systems is highly relevant"* and that *"there is a clear need for investing improving sustainable productivity of dryland agricultural systems which could benefit hundreds of millions of poor people."* In its POWB2016, DS recognised that to achieve impact, CGIAR research should be not only inter-disciplinary, involving all stakeholders across multiple scales but should also aim to understand multi-sectoral interaction moving beyond a focus on a single value chain to include cross value chain interactions. However, this focus was lost in the subsequent submission of a Phase II CRP on drylands (DCLAS).

### A2. Significant achievements

1. We analyzed the progress towards the application of *systems thinking to research solutions* that address development challenges in drylands by undertaking a review of DS publications and using it to develop a new dryland research paradigm for use in dryland science. Eight characteristics of the research required were distilled into a minimum set of three integrative principles namely:

- *Unpacking* relationships and interactions in dryland systems and livelihood portfolios that help to identify opportunities and risks for socio-technical innovation and investment to adapt to multiple interacting drivers of change at different spatial and temporal scales.
- *Traversing* scales and sectors that can improve co-creation, availability of and access to options, shaped and owned by land users and other value chain actors. This enables a more contextual, people-centred focus in assessing risks, trade-offs and vulnerabilities, supporting sustainable, resilient and efficient pro-poor value chains. A networked approach to value chains can enable context-specific analysis and facilitate more inclusive, participatory governance reform.



- *Sharing* knowledge, learning and experience to empower dryland communities, researchers, policymakers and other stakeholders is important to reduce trade-offs and externalities, leverage no-regrets options and avoid unintended consequences. This is especially important in drylands where feedbacks, uncertainties and non-linearities characterize the system. Current knowledge is weakest in terms of understanding social processes such as social learning, decision making behavior and power balances within coupled social-ecological systems.

This paper [New Dryland Development Paradigm](#) g can serve as a screening tool for donors and research funders and help scientists throughout the CGIAR and beyond plan the types of inter- and trans-disciplinary research agendas required for not only for drylands but for other ecosystems too.

2. A multi-institutional writeshop organized by DS and involving 7 CGIAR centers and an equal number of other agencies produced a working paper on [Modalities for Scaling up Sustainable Land Management \(SLM\) and Restoration of Degraded Land](#). This paper will form part of the UNCCD [Global Land Outlook](#) publication for 2017 through the collaboration of ICARDA and the ELD Initiative (see publications at [www.eld-initiative.org](http://www.eld-initiative.org)), and will serve the CGIAR with respect to scaling up strategies for promising interventions.

3. In its role of scientific coordinator of the Economics of Land Degradation (ELD) initiative, Dryland Systems helped bring to fruition a 5-year research effort -between scientists, academics, development practitioners and policy makers- from over 30 different organizations worldwide. In 2016, the initiative published a [report for the private sector](#), a regional and 5 country reports for [Central Asia](#), and a [journal article](#). We point out here that the ELD initiative is separate from a similar initiative reported by [IFPRI](#).

4. The Monitoring, Evaluation and Learning (MEL) platform continued to be improved and has been adopted by 3 other CRPs (RTB, DC, GL) and 3 CGIAR centers (ICARDA, CIP, ICRAF), setting a standard for common results-based research management and evaluation across the CGIAR. A key feature is the interoperability with existing systems and adopted metadata schema such as CG core, DUBLIN core and a series of control vocabularies and domains from open systems (API & Web services based).

### A3. Financial summary

DS expenditure in 2016 was 30.57 million with only 9.31% funding from W1/2 the remainder obtained from W3 and bilateral funds and from Center/partner's own resources. The partners<sup>1</sup> share in the expenditures were: Bioversity 0.9%, CIAT 1%, ICARDA 32%, ICRAF 42%, ICRISAT 14%, ILRI 10% and IWMI 0.1%. Personnel costs<sup>2</sup> made up 28%, partnerships 38%, travel 5% and CGIAR centres collaborative costs 3%. Of the regions, West Africa and the Sahel reported the largest expenditures of 37% followed by East and Southern Africa 34% North Africa and West Asia 9% South Asia 7%, Central Asia 5% and the PMU 6%.

## B. IMPACT PATHWAY AND INTERMEDIATE DEVELOPMENT OUTCOMES (IDOS)

In 2016, we continued to develop and refine our conceptual and practical understanding of Dryland Systems impact pathways through empirical analyses of long-term field level research, and the revised [Theory of Change \(ToC\)](#) and [Program Impact Pathway](#) (IP). Baseline data, indicators results, and reporting are enabled and monitored through our [web-based MEL platform](#), and used to evaluate program performance, in close consultation with partner centers and the CGIAR Evaluation Community of Practice (CoP). The Program works to achieve the SLOs and cross cutting outcomes (CCOs) by applying an integrated systems approach to research activities in four iterative phases: (1) integrated systems analysis for identifying system and context-relevant intervention strategies, entry points and

<sup>1</sup> CIP did not receive any funds based on POWB submission nor mapped any bilateral/W3 projects (L111).

<sup>2</sup> Cost category analysis is based on direct costs (L121)

actors involved; (2) on the ground integrated system interventions to promote synergistic/convergent improvements in agricultural production, livelihoods and natural resource base; (3) integrative assessment of system performance and impact for managing trade-offs and options, and; (4) integrated system analysis and synthesis for scaling out and up site-specific research outcomes. The results of activities in the first two phases capture the Program research outputs (i.e. system contexts understood and context-relevant management options identified and verified). The results of research in the two later phases capture Program outcomes and impact. These 4 phases correspond to the SRF phases of discovery, proof of concept, pilot and scaling up. Details of progress towards IDO's are described under Section C2.

## C. PROGRESS ALONG THE IMPACT PATHWAY

### C1. Progress towards outputs

#### C 1.1. PUBLICATIONS

In 2016, we produced [610 publications](#) compared with 565 in [2015](#), including 131 peer-reviewed journal articles, 18 book chapters and 50 articles in conference proceedings. About 71% of the journal publications (95 articles) were indexed by Thomson Reuters ISI. More than 85% of all our 2016 publications are open access. In addition, there are 74 publications with a 2017 date as we continue to receive and collate the information from participating centers giving a grand total of 684. This represents a significant increase in outputs compared with 2014 and 2015 and demonstrates the progress made by the DS in the last 3 years. Areas of significant scientific contributions are summarized below:

- Development of systems concepts for i) a [New Dryland Development Paradigm](#), ii) [Modalities for Scaling up Sustainable Land Management \(SLM\)](#), iii) [Restoration of Degraded Land](#), and iv) [Integrated Systems Approach for Sustainable Intensification in Smallholder Agriculture](#) grounded in empirical analyses and syntheses of CRP DS's studies across regions in comparison with the state-of-the art of dryland science.
- Syntheses of Assessment of the Economics of Land Degradation and Sustainable Land Management Options ([global](#), regional – [Central Asia](#), [East Africa and the Sahel](#)), [Analysis of the Threat of Land Degradation to Realizing the Sustainable Development Goals \(SDG\) and Recommended Remedies](#).
- The above sentinel publications were jointly produced by CGIAR scientists across centers and CRPs (i.e. Dryland Systems, HumidTropics, WorldFish, WLE, FTA and PIM), and Advanced Research Institutes (ARI) demonstrating the expanding outreach of the program in terms of collaboration and partnerships.
- In 2016 the ELD initiative completed its first phase with the support of 17 core partners including the CRP-DS and IFPRI and 5 donor agencies. Ten major publications were produced from 2013-2016 including a methodological guide, a practitioners' guide and reports for policy and decision makers and the private sector. Thirty seven case studies were supported by the initiative and a repository of these and other case studies is available at the [ELD website \(www.eld-initiative.org\)](http://www.eld-initiative.org). An annual Massive Open Online Course (MOOC) was established in 2014 and has attracted over 3000 participants who use the course to design their own national case study. This body of work has contributed to outcomes such as the UNCCD's efforts to prepare a Sustainable Development Goal on preventing/reversing land degradation (SDG 15) and the economic assessment of land degradation/sustainable land management has been incorporated into the UNCCD framework to achieve Land Degradation Neutrality (LDN) (<http://knowledge.unccd.int/knowledge-products-and-pillars/scientific-conceptual-framework-land-degradation-neutrality-overview>). Currently the 195 country signatories to the UNCCD are developing their plans to achieve LDN and will be applying economic assessments. Syntheses documents completed in 2016 included a [global assessment \(by ZEF/IFPRI\)](#), regional assessments in [Central Asia](#), [East Africa and the Sahel](#)), and

an [Analysis of the Threat of Land Degradation to Realizing the Sustainable Development Goals \(SDG\) and Recommended Remedies](#).

### C 1.2. DATA REPOSITORIES AND DATABASES

**Open-access Geo-databases of drylands are public goods:** In 2016, we established 34 open-access geoinformatic data that include main drivers for Sustainable Land Management (SLM) and Land Restoration practices (27 global GIS layers) and main indicators of land degradation and improvement (7 global GIS layers) (<http://geoc.mel.cgiar.org><sup>3</sup>). We also catalogued 40 standardized SLM options by different contexts (37 of them were extracted from WOCAT database) and linked them with the GIS driving/contextual data to enable users to perform option-by-context analysis (<https://mel.cgiar.org/slm/index>). In addition, more than 3000 data sessions were recorded by the [Dryland Systems component of ICARDA's Geo-informatics](#) portal (open-access), with more than 1700 registered users from 120 countries.

**Data on household livelihood assets, farming systems' characterization and management options:** 76 datasets were established across Northern Africa and Western Asia, Central Asia, Eastern and Southern Africa, Western Africa and South Asia.

### C 1.3. INTEGRATED TOOLS

**Global Geoinformatic Options by Context (GeOC) tool:** We have developed and are implementing a web-based geoinformatic tool for defining, monitoring, assessing and co-learning SLM options fitted to the social-ecological context at global, regional and national scales. This [GeOC tool](#) aims to support the implementation of SLM practices by the local and international communities and to help countries report on their commitments to achieving LDN via the UNCCD and Sustainable Development Goal 15. The GeOC is designed to provide land users, projects/programmes and policy decision-makers with plausible, robust extrapolation domains for guiding decisions on the selection and use of SLM options, and an open platform for docking different disciplinary projects into integrative/holistic and converging actions for promoting SLM at scale. It integrates standardized SLM databases such as WOCAT with spatially explicit data on socio-ecological drivers and impacts of land use/management practices to derive plausible soil and water conservation options across different contexts. Further details are provided in the supplementary material requested by the SMO.

**Tools for whole smallholder system analysis to inform system performances regarding total productivity, nutrient- and labor- use efficiencies, soil resource protection, related risks and trade-offs:** [Material Flow Scenarios Analyses](#) applied for smallholder farming systems, [Farm Nutrient Monitoring \(farm-NUTMON\)](#) with [Data-Envelopment-Analysis Programming \(DEAP\)](#) were developed and implemented in a participatory approach ([link1](#), [link2](#)) to support Western African farmers fore-sighting likely outcomes of farm management options in a rational way. [Bio-economic model at watershed level capturing household-farm heterogeneity](#) has been implemented in Ethiopia.

**Environmental Footprint Analysis (EFA) method for assessing eco-efficiencies of agricultural production at scale** were applied for [cereal production systems in South Asia](#), and [milk production and consumption in Kenya](#) in order to analyze trends in production-conservation relationship, or how this relationship is different among different production regimes that support stakeholders (including policy-makers) of different food systems.

**Socio-ecological system tool linking farm-household livelihood context, decision-making with community-landscape processes:** [Land Use Dynamics Simulator \(LUDAS\)](#), a spatially explicit agent-based system that integrates decision-making of heterogeneous farming households with dynamic biophysical processes and responsive to land use/management policies, was customized for analyzing scenarios of dryland community-landscape induced by different policy options for payments for ecosystem services in Northern China, thereby informing national policy. The [Land Use Competition in](#)

<sup>3</sup> The geoinformatic data are open-access for viewing and downloading of subsets defined by users, provided users need to register for the purpose of use monitoring.

[Dryland \(LUCID\) Model](#), another agent-based model explaining the competition between the uses of land for crops and for pastures, has been developed with an aim to supporting land use planning processes in Southern Ethiopia. An [integrated Landscape-level Sustainable Land Management Planning Tool \(iLAMPT\)](#) was calibrated and specified for study catchments in [Togo](#), [Ethiopia](#) and Tunisia to support SLM planning at catchment level.

**Participatory systems analysis, adequate expert-based guidelines:** Guidelines for research objective-driven selections of integrated systems framework and tools, and common steps in integrated systems analyses with examples were continued to be developed with NARS and ARI. The [expert-based procedure for land degradation assessment and mapping](#) was tested in Morocco and proved to be acceptable in terms of accuracy by potential users while low cost and relevant to the data scarcity context in many dry areas. A participatory grid-based procedure for validating soil erosion patterns simulated by scientific model was tested and proved to be usable in Tunisia. We also continued disseminating [Gender Guidelines for Biophysical Researchers](#) to mainstream gender throughout the research project cycle from inception, development and implementation.

#### C 1.4. OUTREACH AND MAJOR GLOBAL EVENTS

We developed a number of communications tools and promotional products to promote the activities and achievements of the Program, both internally and externally to various audiences at local and global levels. Compared to the previous year, we experienced a **28% increase in Website Users** (20,536 vs. 6,113), a **7% increase in the number of Pages Viewed** (49,721 vs. 146,472) and **26% increase in the number of Sessions** (28,174 vs. 22,439) exploring different website sections and contents. The blog stories published in our website in 2016 – coupled with our robust approach to social media have resulted in an increasing number of Program followers and engagement, leading to increased discovery and understanding of our research activities and achievements.

The program co-organized several international writeshops and conferences, including:

- Writeshop on outscaling SLM options, co-organized with UNCCD, Amman, Jordan, April 2016 ([blog](#), social media campaign)
- Writeshop on Central Asia Regional Report, co-organized with the ELD Initiative, Tbilisi, Georgia, October 2016 ([blog](#), social media campaign)
- International Conference on the Economics of Land Degradation in Central Asia, co-organized with the ELD Initiative and GIZ, Bishkek, Kyrgyzstan, November 2016 ([press release](#), social media campaign)

The Program contributed significantly to major international events, including strategic engagement at the following key events:

- IUCN World Conservation Congress, Honolulu, Hawaii, September 2016 ([blog](#), social media campaign)
- COP22 in Marrakech, Morocco, November 2016 ([global campaign](#), [side-events](#))
- CGIAR International Systems Conference, Ibadan, Nigeria, November 2016

**Global campaigns:** We celebrated key international days by launching themed global communication campaigns that shed light on issues and challenges faced in dryland communities. These included campaigns on the [International Women's Day](#), [International Earth Day](#), [World Day to Combat Desertification](#), [World Youth Skills Day](#), [CGIAR Goals](#), [International Day of Rural Women](#), [World Food Day and Eradication of Poverty Day](#), and [Climate Change and Drylands](#). These campaigns consisted of guest blogs, publication reviews, [Exposure stories](#), scientist interviews, videos, etc. We released Quarterly Newsletters in [March](#), [June](#), [September](#) and [December](#), and launched a [campaign](#) to accompany the release of our online, interactive [2015 Annual Report](#).

**Communication products:** To raise awareness of drylands and investment opportunities for research on critical dryland issues, we produced two short documentary films on [Youth of the Drylands](#) and on [Partnerships for Sustainability](#) (with a related [podcast](#)), an animation video on [Food Security in Drylands](#), and a video on the perspectives and [aspirations of youth in agriculture](#). To engage with a wider



audience, we created [Arabic](#) and [French](#) versions of the [Drylands: The Opportunities You Never Imagined](#) video. We also produced a series of five interactive infographics covering different themes in drylands: [Facts](#), [Land Degradation](#), [Climate Change](#), [Food Security](#), and [Poverty](#).

Furthermore, we produced a series of [Research Outcome Stories](#) (19) to communicate the impact of our research on the ground, and shed light on the success of the many women, men and young people whose lives and livelihoods were transformed in dryland communities. A timeline showcasing our [2016 Highlights](#) was created to celebrate our key achievements and bid farewell to the year as it came to a close.

## C2. Progress towards achievement of research outcomes and IDOs

### C2.1 SYNTHESIS GROUNDED IN EMPIRICAL ANALYSES OF CRP DS'S STUDIES ACROSS REGIONS IN COMPARISON WITH THE STATE-OF-THE ART OF DRYLAND SCIENCE

**New Dryland Development Paradigm (New DDP)** ([Stringer et al. 2017](#)): We combined literature review with qualitative and quantitative analysis of the critical mass of CRP-DS systems publications in a three-step process: (1) systematic literature review for identifying dominant dryland research and development characteristics since the turn of the century using Google, Google Scholar and Web of Knowledge, and CRP-DS's Monitoring, Evaluation and Learning platform; (2) quantitative analysis of full texts of selected publications, and (3) qualitative analysis (narrative interpretation of the quantitative analysis and narrative analysis of selected CRP-DS's case studies). This procedure of mixed methods allowed us to identify correlations between different parts of the DDP and to synthesise of context-specific studies from the CRP-DS with broader approaches from the literature. As a result, we empirically derived a new, updated DDP. The new DDP comprises eight characteristics that are distilled into *three minimal integrative principles*: *Unpack*, *Traverse* and *Share*. We applied and tested the New DDP to identify key dryland knowledge and development gaps. A future research agenda is then elucidated, grounded in a research in development approach, in which research anchored in the three integrative principles is embedded within the context it seeks to improve. Further detail is provided in the journal's supplementary material.

**Modalities for Scaling up Sustainable Land Management (SLM) and Restoration of Degraded Land** ([Thomas et al., 2017](#)): To tackle inter-connected global challenges of population growth and migration, climate change and degrading land resources, changes in land use and management are needed at a global scale. There are hundreds of options that can improve the sustainability of land management and prevent or reverse degradation, but there are almost as many socio-cultural, institutional and policy barriers preventing their adoption at scale. To tackle this challenge, the CRP-DS and the UNCCD convened a group of 22 experts from 18 R&D organizations including 7 CGIAR centers to consider barriers and incentives to scaling up Sustainable Land Management (SLM) and land restoration practices, as part of the first Global Land Outlook ([Thomas et al., 2017](#)). The group reviewed existing frameworks for scaling up relevant interventions across a range of contexts, and identified eight critical success factors: i) adaptively plan; ii) consistently fund; iii) select SLM options for scaling up based on best available evidence; iv) identify and engage with stakeholders at all scales; v) build capacity for scaling up; vi) foster institutional leadership and policy change to support scaling up; vii) achieve early tangible benefits and incentives for as many stakeholders as possible and viii) monitor, evaluate and communicate. Incentives for scaling-up were identified for the private sector, farmers and their communities and policy makers. Based on these findings a new framework for scaling up is presented that analyses the contexts in which there is evidence that specific SLM interventions can be scaled up and out, so that scalable SLM options can be screened and adapted to these contexts, piloted and disseminated. This will then help countries achieve land degradation neutrality and comply with the Sustainable Development Goal 15, "Life on Land" ([Thomas et al., 2017](#)). (IDOs on INCREASED INCOMES AND EMPLOYMENT 1.3, MITIGATION AND ADAPTION ACHIEVED A.1, ENABLING ENVIRONMENT IMPROVED C.1, NATIONAL PARTNER AND BENEFICIARIES ENABLED D.1)

**Analysis of the Threat of Land Degradation to Realizing the Sustainable Development Goals (SDG) and Recommended Remedies** ([Vlek et al. 2017](#)): SDG 15 formulates an objective of land degradation

neutrality (LDN). However, land degradation is a complicating factor in reaching not only this goal, but also many of the others such as the elimination of hunger, the provision of biodiversity, clean water, climate change mitigation and sustainable urban environments that all depend on healthy land resources. CRP-DS led by CIAT, convened a group of 33 experts from 16 R&D organizations to analyse systemic threats of land degradation to the achievement of SDGs and discuss strategic remedies. The group identified systemic effects land degradation on both land and not land-related SDGs. Based on critical review of related research and development literature for the past decades, including the authors' projects and publications, the group drew a number of lessons. Agricultural research has to expand its focus from field/plot research to landscape research, and in the process should look at the cost of production by internalizing environmental cost. In some situations, the public cost of agriculture in marginal environments outweighs the private gains even with the best technologies in place. There is a great need to close nutrient cycles and improve the efficiency of external inputs. Landscape designs and urban planning should aim for the conservation of resources, the restoration of biodiversity and the optimal delivery of ecosystem services. Land degradation issues are context-specific. As a result, solutions to land degradation can rarely be generalized. Consequently, LDN will be met only through a multitude of efforts, tailored to the conditions of the landscape, community and national interests in a process of negotiations at each level. (IDOs on [INCREASED INCOMES AND EMPLOYMENT 1.3](#), [MITIGATION AND ADAPTION ACHIEVED A.1](#), [ENABLING ENVIRONMENT IMPROVED C.1](#), [NATIONAL PARTNER AND BENEFICIARIES ENABLED D.1](#))

[Global and regional syntheses of Assessment of the Economics of Land Degradation and Sustainable Land Management Options](#): Conceptual frameworks, sound and feasible methodological standards for ELD assessments at global, regional and national levels have been developed and implemented for empirical studies. These provide the science basis for policy actions towards achieving land degradation neutrality. To overcome the challenge of high uncertainty in current global LD mappings, we developed the hotspot mapping approach with a concrete procedure, to delineate only the degraded areas with high scientific confidence and livelihood vulnerability for targeting and resource prioritization in preventing, mitigating and reversing land degradation ([Le et al. 2017](#)). This approach was applied to produce a most recent global map of land degradation hotspot ([Le et al. 2016](#)). Synthesis of our ELD studies in Central Asia showed improved management of pastoral land can double economic benefits compared to baselines ([Nepesov and Thomas 2016](#), [Quillérou et al., 2016](#)), and identified drivers of SLM adoption ([Mirzabaev et al. 2016](#), [Aw-Hassan et al. 2016](#)). (IDOs on [INCREASED INCOMES AND EMPLOYMENT 1.3](#), [MITIGATION AND ADAPTION ACHIEVED A.1](#), [ENABLING ENVIRONMENT IMPROVED C.1](#), [NATIONAL PARTNER AND BENEFICIARIES ENABLED D.1](#))

[Implementing CRP-DS's Systems Approach and Value Propositions for Guiding Systems Research to a CGIAR Synthesis of Systems-based Sustainable Intensification \(SI\) in Smallholder Agriculture](#) ([Oborn et al. 2017](#)): The Mission Critical Research Areas for Sustainable Dryland Development ([Stringer et al. 2015](#)) and CRP-DS's Value Propositions ([Thomas, 2015](#)) were adopted to frame the first CGIAR's synthesis of integrated systems research into sustainable intensification in smallholder agriculture not only in dryland, but also in sub-humid and humid areas. The key characteristic of Dryland Systems Research approach (compared with conventional system research practiced over the last 40-50 years) have been used as expected criteria to understand, analyse and synthesize added values of system-based research for sustainable intensification of smallholder farm systems in sub-Saharan Africa, South and Southeast Asia, Latin America. The value propositions emphasize the need to look at systems' performance rather than yields, socio-ecological contexts rather than only genetic and narrow agronomic management factors, and broaden the scope of combined and interactive options rather than commodity-based interventions. The proposition also highlights the need to embed the SI research in development context and strengthen the science-policy interface for creating expected impacts at scale. (IDOs on [INCREASED INCOMES AND EMPLOYMENT 1.3](#), [MITIGATION AND ADAPTION ACHIEVED A.1](#), [ENABLING ENVIRONMENT IMPROVED C.1](#), [NATIONAL PARTNER AND BENEFICIARIES ENABLED D.1](#))

## C2.2 MULTI-LEVEL/SCALE OPTIONS BY CONTEXT FOR IMPROVING DRYLAND SYSTEM PERFORMANCE

**Identification of functional livelihood context typologies for improving targeting and up-scaling of improved smallholder agricultural intensification and diversification:** This strand of research has been continued and extended from that done in 2014-2015. Functional livelihood context typologies of smallholder systems, i.e. types of social and ecological conditions/assets having different responses regarding land use/management decisions, visions/planning and performance (e.g. productivity and resource use efficiency), have been identified for rain-fed systems in Burkina Faso (Thiombiano and Le 2016 [a](#), [b](#)), Malawi ([Mponela et al., 2016](#)) and India ([Haileslassie et al. 2016](#)); and in agro-pastoral systems in Uzbekistan ([Akramkhanov et al. 2016](#)). The functional livelihood context typology approach was demonstrated to be an effective and comprehensive way of analysing all the systems elements that need to be taken into account (constraints, opportunities, as well as who/whom, where, what, how) in order to prioritize research questions and identify relevant options for intervention. Context-specific household analysis helps to improve targeting of interventions that increase the overall performance of agricultural livelihood systems with respect to productivity, resource use efficiency, building of natural and human capital and flexibility in coping with and adapting to change in externalities. (IDOs on **INCREASED INCOMES AND EMPLOYMENT 1.3**, **MITIGATION AND ADAPTION ACHIEVED A.1**, **ENABLING ENVIRONMENT IMPROVED C.1**, **NATIONAL PARTNER AND BENEFICIARIES ENABLED D.1**)

**Development and implementation of Global Geoinformatic Options by Context (GeOC) framework and web-based tool:** Sustainable Land Management (SLM) options are required to achieve Land Degradation Neutrality (LDN) that are fitted to the social, economic and ecological contexts. The high contextual diversity of drylands in particular prevents the design and application of “uniform blanket” policies to promote SLM over large scales where significant impact is expected. To address this challenge the CGIAR Research Program on Dryland Systems (CRP-DS) has developed Global Geoinformatic Options by Context framework (i.e. [GeOC framework](#)), which is based on a systems approach defining functional relationships among the structure and functions of land use system, its socio-ecological context (including drivers) and performance and impacts (Le et al. 2017). The GeOC framework is computerized in a web-based GIS environment (i.e. [GeOC tool](#)) for defining, monitoring, assessing and co-learning SLM options fitted to the social-ecological context at global, regional and national scales. The GeOC tool is able to cope with the high level of contextual diversity. It can improve linkages among different scales and kinds of data that are essential for SLM implementation, evaluation and upscaling. It integrates [standardized SLM databases](#) such as WOCAT with spatially explicit data on socio-ecological drivers and impacts of land use/management practices to derive plausible soil and water conservation options across different contexts. [Tunisia was chosen as a pilot national study](#) to test and modify the tool to its particular agricultural practices and biophysical, social and economic contexts. (IDOs on **INCREASED INCOMES AND EMPLOYMENT 1.3**, **MITIGATION AND ADAPTION ACHIEVED A.1**, **POLICY AND INSTITUTIONS C**, **ENABLING ENVIRONMENT IMPROVED C.1**, **CAPACITY DEVELOPMENT D**, **NATIONAL PARTNER AND BENEFICIARIES ENABLED D.1**)

## C2.3 INTEGRATIVE OPTIONS FOR IMPROVING PERFORMANCE OF AGRICULTURAL PRODUCTION SYSTEMS AND SOIL-WATER RESOURCES VALIDATED AND ADOPTED

**Sustainable land/farm management options** for improving farm productivity, household incomes, soil and water resources and gender equity were tested and validated in several specific livelihood contexts in drylands. These Dryland Systems research activities are quite different from other commodity-based research activities implemented by other projects/programs in terms of being: (1) driven by constraints, opportunities, needs/preferences and capacities in specific to rural livelihood contexts, (2) oriented to system performances (improved total productivity and stability, natural resources base and social equity), (3) integrative interventions to create convergent changes, and (4) being co-learned and co-produced through multi-stakeholder innovation platforms. (IDOs on **INCREASED INCOMES AND EMPLOYMENT 1.3**, **PRODUCTIVITY INCREASED 1.4**, **MITIGATION AND ADAPTION ACHIEVED A.1**, **GENDER & YOUTH B**, **EQUITY & INCLUSION B.1**, **ENABLING ENVIRONMENT IMPROVED C.1**)

**Conservation soil and water management practices:** Conservation Agriculture (CA) research has been continued and extended from that done in 2014-2015. In rainfed and agro-pastoral systems, technological options proved to contribute effectively to agricultural production and income preferred

by partners including zero-till ([El-Shater et al. 2016](#)), integrated soil nutrient management practices on rainfed farms on hill slopes ([Mponela et al., 2016](#)) and dual-purpose cattle farming ([Sraïri et al. 2016](#)); CA was found to be useful for increasing water use efficiency in Indian irrigated systems ([Das et al. 2016](#)) and rainfed systems ([Wani et al. 2016](#)). The [Vallerani rainwater harvesting package](#), developed through DS research, has been implemented on over [3,864 hectares of Jordanian rangeland \(adoption rate was tripled in comparison with the baseline\); increase rangeland biodiversity by capturing 67–73% of available seeds in the harvested area \(compared to 3–6% in the control sites\); prevented 40–50% of precipitation lost by evaporation](#). More than 5,000 Zimbabwean rainfed farmers adopted DS innovation regarding the combination between CA (e.g. dual cropping, mulching) on rainfed farms with home-grown improved forages for livestock, which [increased whole-farm's gross margins up to 70% and the contribution of livestock to livelihoods rose from 29 to 42%](#). The practice of conservation agriculture (zero or minimum till and water conservation measures) was promoted for [rainfed wheat/legume-based systems across Algeria, Morocco, Lebanon, Jordan, Turkey, and Tunisia \(through 106 technology dissemination platforms\) doubled crop yields \(e.g. 128% and 133% for wheat and chickpea, respectively\)](#). Supplemental irrigation packages implemented to wheat-legume based farms in Algeria, Tunisia, Morocco, Jordan, Turkey and Lebanon [increased crop yield from 37% \(using one irrigation type\) to 77% \(combining use of 3 irrigation types\)](#). In irrigated systems, [raised-bed planting package](#) was extensively adopted by irrigated farmers in [Egypt](#) and Sudan, reaping higher yields with less water, e.g. 30% increase in wheat yield and 75% improvement in water use efficiency in Egypt ([ICARDA 2016](#)). More than 22 Egyptian governorates implemented this innovative package; [in the Al-Sharkia governorate alone nowadays there has been already 33.6 thousand ha of raised-bed wheat compared to only a thousand ha in 2010](#). (IDOs on [NATURAL CAPITAL ENHANCED 3.1, SUSTAINABLY MANAGED AGRO-ECOSYSTEMS 3.3, MITIGATION AND ADAPTION ACHIEVED A.1](#)).

[Food production cycle/sector-scale assessments with foci on trade-offs between food production/consumption and environmental impacts at scale](#): In 2016, there were a number of significant studies assessing performances and impacts of agricultural production systems at the scale of production life cycles (that can be linked to entire region, nation or inter-nations), and agricultural sector. [Ladha et al. \(2016\)](#) used novel production-scale research platforms to assess and optimize futuristic cropping systems and management scenarios - i.e. best agronomic management practices, CA, crop diversification - in comparison with current management in the rice- and wheat-based systems across South Asia. CA practices were found to be most suitable for intensified and diversified/wheat-rice rotated systems. This finding also highlights the need for characterizing areas suitable for CA and subsequent technology targeting and integrative baseline dataset allowing the prediction of extending benefits to a larger scale. [Bosire et al. \(2016\)](#) analysed the changes in consumption of meat and milk between the 1980s and 2000s for three income classes in Nairobi and the related footprint on water fresh water resources. As a result, the increase in milk consumption was met by increased domestic production whereas the growth in meat consumption was partly met through imports and an enlargement of the water footprint in the countries neighboring Kenya. A likely future rise in the consumption of meat and milk in Nairobi induce negative impacts on water resources that are vital resources in water-scarce environment, both nationally and internationally. (IDOs on [NATURAL CAPITAL ENHANCED 3.1, SUSTAINABLY MANAGED AGRO-ECOSYSTEMS 3.3, MITIGATION AND ADAPTION ACHIEVED A.1](#)).

## C2.4 ENABLING BETTER INSTITUTIONS, POLICIES AND GOVERNANCE FOR SCALING OUT AND UP RESEARCH OUTCOMES AND INNOVATIONS

[Review of innovation platform systems and their role for agrarian development and transformation in South Asia \(Shalander and Whitbread, 2017\)](#): In 2016, CRP-DS commissioned ICRISAT to conduct a synthesis assessment of Dryland System innovation platforms (IP) in South Asia. The review highlighted key values IPs have added to the agricultural development (including transformation) in the region. These added values mainly include: (1) provide space for interactions among actors for knowledge exchange, learning and catching opportunities, (2) reduce tendencies for conflict, build trust, promote joint action implementation and provide opportunities, (3) provide mechanisms for need-based capacity building. The review also confirmed the prominent roles of innovation broker/ facilitator and the



provision of small budgets for facilitation as minimal conditions for successful IPs. The recognized challenges for functional IPs are systematically monitoring and evaluation (M&E) of key processes and outcomes in reflexive, rather than pre-defined, ways. (IDOs on [INCREASED INCOMES AND EMPLOYMENT 1.3](#), [EQUITY AND INCLUSION ACHIEVED B.1](#), [ENABLING ENVIRONMENT IMPROVED C.1](#), [NATIONAL PARTNER AND BENEFICIARIES ENABLED D.1](#)).

Catalysing change through multi-sector Innovation Platforms in Central Asia ([ICARDA-Central Asia, 2017](#)): Regional platforms established in 2014/2015 such as [Agricultural Innovation Systems \(AIS\) in Central Asia and Caucasus countries and China towards more sustainable Food Security and Nutrition \(FSN\)](#), [Rural Women Learning Alliance](#) have been continued to function to support multi-level, multi-sector actors to practice and or manage agricultural production in coping with the negative effects of climate change and land degradation. (IDOs on [INCREASED INCOMES AND EMPLOYMENT 1.3](#), [EQUITY AND INCLUSION ACHIEVED B.1](#), [ENABLING ENVIRONMENT IMPROVED C.1](#), [NATIONAL PARTNER AND BENEFICIARIES ENABLED D.1](#)).

New national commitments, and uptake plans are underway. [Wide-scale uptake of the raise-bed planting package has occurred in Egypt](#) as the government supported the campaign with US\$1.7 million, and 1,900 demonstration fields of raised-bed farming were established, resulting in 105,000 hectares of raised-bed farming, supporting sustainable use/management of water, improvement of yields and incomes, thus making farmers' livelihood more resilient to climate change. Following the success of DS pilot studies on the integration of legumes (mung bean) to wheat-cotton system, [Uzbekistan's policy makers allocated additional farmland for this system agronomic innovation](#), and are planning to bring out guidelines of mungbean seed production in 2017 to scale up the practice to other parts of the country. [The maps of livestock routes done by DS scientists have been adopted by Tanzania's Livestock Modernization Initiative \(led by Ministry of Livestock and Fisheries\)](#) for improving livestock production of pastoralist/agropastoralists, reducing conflicts over land use and movement and improving trade. Index-Based Livestock Insurance (IBLI) schemes established in Kenya and Ethiopia continue to function. [In February 2017, the Government of Kenya, in partnership with Kenyan insurers, announced payments to over 12,000 pastoral households under a breakthrough livestock insurance plan](#). In 2016, to enhance the scientific basis and capability for IBLI. [Woodard et al. \(2016\)](#) developed an explicit spatial econometric framework to estimate insurable indexes that can be integrated within a general insurance pricing framework. The authors also implemented an estimable procedure which employs an iterative method, and developed an out-of-sample efficient cross-validation mixing method to optimise the degree of index aggregation in the context of spatial index models. (IDOs on [INCREASED INCOMES AND EMPLOYMENT 1.3](#), [MITIGATION AND ADAPTION ACHIEVED A.1](#), [EQUITY AND INCLUSION ACHIEVED B.1](#), [ENABLING ENVIRONMENT IMPROVED C.1](#), [NATIONAL PARTNER AND BENEFICIARIES ENABLED D.1](#)).

### C3. Progress towards impact

Most of Dryland Systems 2016 activities have been necessarily focused on carrying out reviews and synthesis of ongoing activities, in order to ensure, collate and disseminate the related scientific achievements. By thoroughly addressing non-linear, complex dynamics of socio-ecological systems, operating at different scales of space, time and human organization, and by use of well-established and tested approaches, methods, offline and online tools (i.e. institutional platforms), positive impacts on development is foreseeable. Dryland Systems has been involved in the following initiatives, which are expected to result in future impacts,:

- Village-Based Seed Enterprises ([ICARDA 2016](#), [CGIAR 2016](#)) and community- level women led interventions in India and Uzbekistan;
- Policy-level adoptions of new high yielding and heat tolerant wheat varieties in Nigeria ([Drylandsystems 2016](#)),
- Index-Based Livestock Insurance (IBLI) schemes implemented in Kenya and Ethiopia ([Takahashi et al. 2016](#)),

- The UNCCD endorsement of [New Dryland Development Paradigm](#), [Modalities for Scaling-up SLM](#) to tackle the complex issue of land degradation that will affect national policies of all UNCCD signatory countries in their efforts and the positive engagement of the private sector with the evidence presented in the Value of Land report ([www.eld\\_initiative.org](http://www.eld_initiative.org))
- Innovative, system-based and user-friendly offline (i.e. Gender Guidelines) and online tools (i.e. [MEL](#) and embedded) of CRP-DS will be continued to be used by projects/programs implemented by CGIAR and non-CGIAR agencies.

## D. GENDER AND YOUTH RESEARCH ACHIEVEMENTS

In 2016, our gender-responsive systems research and gender mainstreaming activities enabled substantial achievements in understanding and addressing key institutional and cultural attitudes, policy gaps and local contexts that affect gender inequity in rural agricultural livelihoods in drylands. However, gender and youth activities were more limited compared to last year, due to severe budget cuts.

**Producing evidence through gender strategic and mainstreamed research:** Our gender research in the rural drylands of Morocco indicates the need for [gender responsive interventions](#) that understand the motives and experiences of youth and women who migrate to offer their labor in the agricultural sector away from their home villages. A [participatory youth study](#) found that more than half of young people would choose to stay if they had better access to information, training opportunities and tools that would enable them to improve their incomes under better working conditions. A [workshop](#) was held to share and discuss the findings with different key stakeholders. These insights informed the development of a [policy brief](#) that has been shared with key stakeholders and decision-makers, as well as a manuscript, to be published in 2017. A systems-perspective study further explored the [gender wage gap and working conditions](#) for landless female agricultural labourers, and stressed the need to enforce existing legislation to ensure women profited equitably from their work. We also found a need to promote strategies that change the perception of agricultural work as an occupation of last resort, in order to achieve broader agricultural and economic development in Morocco.

A study in four [West African](#) countries indicates that even though women are major contributors to the agricultural economy, culturally rooted power imbalances significantly limit women's control of household income allocation. Giving women more decision-making power, on the household, farm and market levels, is critical for ensuring social sustainability and equity. The subject of empowerment is further explored in a study assessing the [impacts of gender mainstreaming interventions](#) in the Dryland Systems program intervention sites. Using [questionnaires](#) and [focus group discussions](#), combined with the adapted and contextualized Women Empowerment Agricultural Index ([WEAI](#)) standard tool, the study concluded that women and youth in Dryland Systems' intervention areas were more empowered, and had more decision-making participation compared to women and youth in control areas. A [policy brief](#) was developed to provide policy makers and development partners with tools and methods for improving policies to be gender sensitive.

Our research evidence in [India](#) indicates that cultural and social norms inhibit the perception of women as farmers or landowners, even when they fully manage and perform every aspect of field work. A total of 1,232 adults from six villages in the states of Karnataka and Rajasthan were [interviewed](#) for the study, which revealed that men and women have differential access to assets, information, markets, credits and other services. Women comprise a significant portion of the working poor, yet they benefit significantly less from extension services. The study gave an insight into the current status of extension services in these rural areas, and pointed out the ineffectiveness of addressing gender inequalities when extension personnel are only trained on gender analysis, as is the current practice. The findings and recommendations of the study can inform new policies and institutional frameworks that enable extension services to become more gender responsive while considering the challenges presented by the external environment, such as land degradation, fragmentation of farm holdings, and threats and opportunities with greater integration of markets.

**Capacity development highlights:** We launched an [Internship Program](#) in April 2016 to build the skills of young scientists -both women and men from 12 countries around the world- in project management, GIS mapping, and science communications.

## E. PARTNERSHIPS BUILDING ACHIEVEMENTS

In 2016, Dryland Systems relied on a diverse array of over 481 [partnerships](#) with NARS, ARIs, civil society actors, the private sector and participating centers to engage in integrated agricultural systems research and ensure its research outputs are effectively utilized in order to fulfill the program's mission.

**Use of research outputs and outcomes by partners:** In 2016, many of our partners (including but not limited to NARS, NGOs, ARIs, academia, private sector, national governments and other CRPs) reported evidence of direct influence of Program research outputs on improved dryland agricultural livelihoods and policies in many countries and regions, such as [Tunisia](#), [Kenya](#), [Uzbekistan](#), [South Asia](#), etc. Illustrative examples of the research-for-development partnerships we established this year: We collaborated with multiple CRPs, CGIAR centers and external partners to produce three legacy papers: [New Dryland Development Paradigm](#), [Analysis of the Threat of Land Degradation to Realizing the SDGs](#), [Modalities for Scaling Up SLM and Restoration of Degraded Land](#). The three legacy papers were developed for use across all CRPs, to ensure our most critical scientific knowledge, data, tools and lessons learned continue to shape future research and development interventions in rural drylands of the developing world.

In collaboration with CRP WLE, we produced two short documentary films: (1) [New Partnerships for Sustainability](#) which sheds light on the mutual benefits and added value that public-private partnerships can bring to both the local rural dryland communities and private sector. Broad partnerships and continuing investment to support research and development programmes in drylands are critical and necessary, and likely to offer significant returns globally in terms of reducing poverty, improving health and food security, and dealing with adverse effects of climate change; (2) [Youth of the Drylands](#) which stresses the importance of supporting and empowering young people in the face of current global events such as severe population displacement, migration, climate change, extreme violence against women and girls, and widespread instability and crises in many world region, especially in the Middle East and North Africa.

The first multi-CRP online platform, Monitoring, Evaluation & Learning ([MEL](#)), was further developed as a result of the combined effort of experts from several CRPs (DS, RTB, DC, GL), with the support of their lead centers and ICRAF. In East and Southern Africa, an Index-Based Livestock Insurance ([IBLI](#)) was developed by our ILRI scientists for Kenyan and Ethiopian pastoralists at risk of climate shocks such as droughts. In Nigeria, we partnered with ICARDA to introduce [high-yielding, heat-tolerant wheat varieties](#), which have been included as a priority in the Nigerian government's Agricultural Transformation Agenda (ATA) to solve the country's dependence on importation. In Central Asia, joint research activities with the ELD Initiative brought together scientists and experts from Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan and Uzbekistan, in a [study](#) on the economics of land degradation for improved land management in the region.

**Strategic partnerships with other CRPs:** Dryland Systems collaborated with all CRPs to deliver research outputs, share knowledge and learning, and bring together a number of national research institutions, private farmers, governmental organizations and CG centers to test, implement, and scale up innovative research solutions from an integrated systems perspective. Continuing research has been re-mapped to other CRPs where relevant, particularly to WHEAT, LIVESTOCK and WLE. It is expected that during 2017 other research topics will either be re-mapped to other CRPs or continued as activities by the lead center outside of the CRP portfolio depending on funding. The rejection of the DCLAS proposal has resulted in uncertainty over dryland research, which will call for partnership adjustments in 2017.

## F. CAPACITY BUILDING

Capacity Development (CapDev) was at the core of project and activity implementation strategies in 2016, and all Dryland Systems flagships have thoroughly built on the CapDev experience of the CGIAR Phase I. As a result, in 2016 the knowledge led and produced by NARS, Regional and Sub-Regional Organisations has increased by +29.6%: 81 products, with 16 ISI Journal Articles, against the 57 of 2015, with 8 ISI Journal Articles. More effectiveness shall become evident by the end of 2017. Due to the considerable budget cut and closure of the CRP, the focus has been shifted from long-term training programs, with a drop of -89% males and -73% females trainees, to short-term programs, which have seen an increase of +6% males and +21% females trainees. Even so, the number of multi-stakeholder R4D innovation platforms established with the contribution of Dryland Systems has only decreased of -33%, a surprising number, considered the limited funds, that highlights the relevance given to this fundamental objective.

Dryland Systems has consistently brought on the [CapDev Strategy and Implementation Plan](#) (2014), which was also adopted by other CRPs (WHEAT, DC and GL) for [Phase II Proposals](#). Scientists further implemented CapDev activities in their projects (CRP FP, CoA), and applied the CapDev Elements developed by the CGIAR Community of Practice (CoP), benefitting from the strategy and workplan prepared in 2014. The planned outcomes for 2016 came to fruition and were collected accordingly.

CGIAR CapDev Elements have been implemented with the strategic support of Monitoring, Evaluation & Learning ([MEL](#)), further enhanced in its CapDev planning and reporting modules. The upgrading of MEL has itself been an extraordinary CapDev activity, executed in close partnership with RTB, DC, and GL, which have adopted the platform and have contributed operatively to its enhancement. MEL has also proven to be a useful training tool for young capacity, inducted in 2016 to the CGIAR Framework. In short time, interns were able to duly manage projects and activities data, communicate with senior capacity, and develop an early understanding of CRP DS system approach. The trained capacity has supported the Dryland Systems Communication, M&E and ICT activities, such as online outreach campaigns, 2015 and 2016 reporting, [systems analysis methods for identifying suitable interventions in smallholder agriculture](#), impact evaluation of SLM options through the Global Geo-Informatics Options by Context ([GeOC](#)) tool.

The development of [CapDev Indicators](#) –featured in the CGIAR Phase II [Guidance](#)– was undertaken in late 2016. An early stage of completion is foreseen towards the end of 2017. The function that provides Dryland Systems open access statistics was upgraded into an actual Annual Report draft, available to all MEL users, and a set of [Open Facts](#) comprehensive of projects, budgets, partners, funders, and CapDev activities. All training materials (survey tools, evaluation formats, guidelines and datasets) are [published open access](#) following [CO Standards](#) on the Open Access repository [MELSpace](#), and our CapDev Indicators are aligned with [Feed the Future Indicators](#) for programs funded by the U.S. Government and mapped to our program.

## G. RISK MANAGEMENT

The [Risk Management Plan](#) (approved in 2014, based on [recommendations by the CO](#)) was upheld by Dryland Systems and CRPs on DC, GL and RTB, to maintain risk mapping along the research impact pathway, and to ensure contingent options-by-context measures were taken at the right time. The experience gathered by the Program during Phase I will provide accountable fact-based knowledge for future projects in countries with agro-ecologies and socio-economic contexts similar to Phase II CRPs.

The severe budget reduction required efforts to prioritize and carry out the activities planned for the three Agricultural Livelihood Systems. The Program relied strongly on W3/bilateral funds attracted by partner centers, mitigating the inevitable loss of connection with the partners on ground by further involving ARIs, MSc/PhD students, and Partnership Framework Agreements [worldwide](#), while employing PMU staff in the review process of branded publications and co-funded activities with other CRPs.



The ability of MEL platform to monitor equitable acknowledgement and attribution was critical in 2016. Using the platform has sensibly increased the accuracy of knowledge management, enabling an attentive attribution of results without double counting across CRPs (e.g. publications, datasets, people trained, etc.); a key reputational risk that must be addressed by other Programs in Phase II in order to retain a high degree of interest, reliability, and accountability vis-à-vis donors and partners.

Dryland Systems closing procedures were carried out as by self-designed pre-emptive strategies, open and adoptable by the CGIAR as it continues to modify its portfolio of CRPs. 100% of data produced and collated by Dryland Systems through the years is made available on MEL, originally designed to serve the Program in the framework of Consortium activities. MEL stores and processes information on finance (e.g. funds, budgets, salaries), projects and activities planning (e.g. impact pathways, research teams), outputs (e.g. knowledge, tools, reports), outcomes (Research and Development Outcomes), Strategic Related Framework (SLOs, IDOs, sub-IDOs), as well as individual scientists monitoring and collaboration networks monitoring, providing overviews, Open Facts, and Knowledge Sharing toolsets for science communication and outreach. MEL has now been transferred to its co-developing partners for administration and further up-scaling of the platform, while retaining all of its operative functions for the partner Centers.

Since the submission of this report it has become clear that the proposed new CRP on Dryland Cereals and Legumes (DCL) will not have a focus on the Middle East and North Africa regions (MENA). A new strategy is therefore required led by ICARDA to ensure that efforts continue on food and nutrition security in the region. ICARDA has consequently developed a regional program for MENA to be funded via W3/bilateral sources. A summary of this proposal is now included as an additional Appendix 5. This proposal addresses many of the criticisms of the DCL proposal. It recognises, for example, that improved crop and animal technologies will not be widely adopted unless farmers have a better enabling environment with better access to inputs, finance and information on improved technologies and approaches developed through co-learning. It puts emphasis *inter alia* on economic sustainability and growth through value addition and greater end-product differentiation. More nuanced targeting of interventions will be achieved by expanding the geo-informatic tool developed by ICARDA, that analyses the great variability in biophysical and socio-economic conditions in dryland environments via its options x context facility. This tool in effect can analyse and create typologies and their extrapolation domains. It is expected that this tool could also be used by any future DCL CRP. Closer interaction with the private sector will be facilitated by greater collaboration with, for example, CIHEAM and its efforts to identify Mediterranean Innovation partnerships for youth entrepreneurship and technical capacity building and information exchange in the agri-food sector. This will be important in order to determine the conditions where agribusinesses can be established and thrive while at the same time encouraging youth to remain in agriculture and related businesses.

## H. LESSONS LEARNED

The inability of the proponents of the Phase II CRP DCLAS to agree on what constitutes an AgriFood Systems approach to CGIAR research resulted in a CRP Proposal that was not accepted. Hence the role of the CGIAR in drylands development is now in question. For its part CRP-DS clarified its position via a value proposition included in the paper submitted to the Fund Council that distinguished between ‘conventional’ CGIAR research and a more holistic integrated systems approach. This was also endorsed by the CGIAR systems scientists CRPs at the conference on Sustainable Intensification in Smallholder Agriculture held at IITA, Nigeria and has since been published in a high impact factor journal (DOI: 10.1002/ldr.2716) that outlines the components for a research agenda on drylands and other ecosystems.

On reflection, it seems that ‘integrated systems research’ is too elusive and vague a term for CGIAR donors so perhaps a common ground would be to now focus on a research agenda specifically on **integrated land use, food security and adaptation to climate change**. Here recognizable topics may appeal more to donors and will also bring the various scientific disciplines and approaches together within the CGIAR. A focus on land use would ground CGIAR research on agriculture while at the same time incorporate needed aspects of protection/conservation of the natural resources (natural capital).

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## Annex 1. CRP Performance indicators with glossary and targets

\*All detail information available on <https://mel.cgiar.org> requesting a user account to the CRP Program Management Unit.

Indicator	Glossary	Deviation Narrative (±10%) 2016	2016	
			Target	Actual
1. Number of flagship “products” produced by CRP	See <a href="#">here*</a> for full list of flagship products.	D: +27% Stakeholders consultation provided faster pathway to deliver additional frameworks not set as target.	11	14
2. % of flagship products produced that have explicit target of women farmers/NRM managers	See <a href="#">here*</a> for full list of flagship publications.	D: +72% Implementation of Gender Strategy and more effort from social scientists in centers increased expected target value.	50%	86%
3. % of flagship products produced that have been assessed for likely gender-disaggregated impact	See <a href="#">here*</a> for full list of flagship products.	D: +43% Implementation of Gender Strategy and more effort from social scientists in centers increased expected target value.	30%	43%
4. Number of “tools” produced by CRP	See <a href="#">here*</a> for full list of tools.	D: +133% Non-CG Partners contributed more than expected and provided additional Tools.	9	21
5. % of tools that have an explicit target of women farmers	See <a href="#">here*</a> for full list of tools.	D: +106% Implementation of Gender Strategy and more effort from social scientists in centers increased expected target value.	30%	62%

<b>6. % of tools assessed for likely gender-disaggregated impact</b>	See <a href="#">here*</a> for full list of tools.	D: +90% Implementation of Gender Strategy and more effort from social scientists in centers increased expected target value.	20%	38%
<b>7. Number of open access databases maintained by CRP</b>	See <a href="#">here*</a> for full list of open access databases.	D: -80% Reduction of funds and closure of CRP did not support curation of already produced datasets to be made publicly available. Center will release such datasets in 2017 using bilateral or Phase II funds.	30	6
<b>8. Total number of users of these open access databases</b>	See <a href="#">here*</a> for more details.	D: -84% Decreased number of openly available datasets compared with Target has obviously reduced audience. It is important to note that nested datasets may have the same target users thus the number is overestimated. Centers should improve their capacity to track usage with CRP support in 2017.	25,000	4,000
<b>9. Number of publications in ISI journals produced by CRP</b>	See <a href="#">here*</a> for full list of publications.	D: +280% The target value for the ISI papers takes into account monodisciplinary science ISI papers part of the Integrated Research process, as by Integrated System perspective. [The CRP advocates consideration of SCOPUS indexed papers – as done for the CGIAR FinPlan 2015 – and measures the related citation index].	25	95



<b>10. Number of strategic value chains analysed by CRP</b>	See <a href="#">here*</a> for full list of value chains analysed.	D: -75% Reduction of funds and closure of CRP did not support additional planned work on value chains.	4	1
<b>11. Number of targeted agro-ecosystems analysed/characterised by CRP</b>	See <a href="#">here*</a> for more details on agro-ecosystems analysed.	D: +50% Target value considered main CRP agro-ecosystems at global level while the actual value measured the agro-ecosystem in specific country (option x context)	4	6
<b>12. Estimated population of above-mentioned agro- ecosystems</b>	See <a href="#">here*</a> for more details.	D: -44% Targeted agro-ecosystems where smaller in size (context specific) in order to cope with reduction of funds thus less estimated population.	100,000,000	55,055,000
<b>13. Number of trainees in short-term programs facilitated by CRP (male)</b>	See <a href="#">here*</a> for more details on male trainees in short-term programs.	D: + 6%	3,000	3,171
<b>14. Number of trainees in short-term programs facilitated by CRP (female)</b>	See <a href="#">here*</a> for more details on female trainees in short-term programs.	D: +21% Female participation was encouraged also using ICT based courses (online)	1,000	1,215
<b>15. Number of trainees in long-term programs facilitated by CRP (male)</b>	See <a href="#">here*</a> for more details on male trainees in long-term programs.	D: -89% Budget reduction and closure of the CRP caused reduction of scholarship for long-term training.	46	5

<b>16. Number of trainees in long-term programs facilitated by CRP (female)</b>	See <a href="#">here*</a> for more details on female trainees in long-term programs.	D: -73% Budget reduction and closure of the CRP caused reduction of scholarship for long-term training.	15	4
<b>17. Number of multi-stakeholder R4D innovation platforms established for the targeted agro-ecosystems by the CRPs</b>	See <a href="#">here*</a> for full list of innovation platforms.	D: -33% Number of innovation platforms decreased due to shortage of funds to establish planned ones. Value based on those maintained by the CRP.	6	3
<b>18. Number of technologies/NRM practices under research in the CRP (Phase I)</b>	See <a href="#">here*</a> for full list of technologies/practices under research.	D: -45% Budget reduction and closure of the CRP caused reduction of research for technologies in Phase I.	20	11
<b>19. % of technologies under research that have an explicit target of women farmers</b>	See <a href="#">here*</a> for full list of technologies under research targeting women farmers.	D: +220% Implementation of Gender Strategy and more effort from Social Scientists in Centers increased expected target value, however the % is calculated on 11 technologies compared to the 20 planned.	20%	64%
<b>20. % of technologies under research that have been assessed for likely gender-disaggregated impact</b>	See <a href="#">here*</a> for more details.	D: +125% Implementation of Gender Strategy and more effort from Social Scientists in Centers increased expected target value, however the % is calculated on 11 technologies compared to the 20 planned.	20%	45%

<b>21. Number of agro- ecosystems for which CRP has identified feasible approaches for improving ecosystem services and for establishing positive incentives for farmers to improve ecosystem functions as per the CRP's recommendations</b>	See <a href="#">here*</a> for more details on the identified ecosystems.	D: +200% Two additional agro-ecosystems piloted for identification of feasible approaches for improving ecosystem services was reached thanks to the support of non-CG Partners	1	3
<b>22. Number of people who will potentially benefit from plans, once finalised, for the scaling up of strategies</b>	See <a href="#">here*</a> for more details.	D: -24% Target population in CRP agro-ecosystems was lower than expected due to reduction of scope.	70,000,000	52,535,000
<b>23. Number of technologies /NRM practices field tested (Phase II)</b>	See <a href="#">here*</a> for full list of technologies/practices field tested.	D: -9%	20	4
<b>24. Number of agro-ecosystems for which innovations (technologies, policies, practices, integrative approaches) and options for improvement at system level have been developed and are being field tested (Phase II)</b>	See <a href="#">here*</a> for more details.	D: -80% The research conducted took into account budget reduction and closure of CRP. This limited the number of Agro-ecosystems.	14	8
<b>25. % of above innovations/approaches/options that are targeted at decreasing inequality between men and women</b>	See <a href="#">here*</a> for more details.	D: +25% Implementation of Gender Strategy and more effort from social scientists in centers increased expected target value, however the % is calculated on 8 innovations compared to the 14 planned.	20%	25%

<b>26. Number of published research outputs from CRP utilised in targeted agro-ecosystems</b>	See <a href="#">here*</a> for more details.	D: -49% Reduction of funds did not support publications of research outputs.	55	28
<b>27. Number of technologies/NRM practices released by public and private sector partners globally (Phase III)</b>	See <a href="#">here*</a> for full list of technologies/practices released.	D: -100% Reduction of funds did not support the promotion of technologies to scaling partners at national level.	4	0
<b>28. Numbers of Policies/ Regulations/ Administrative Procedures Analyzed (Stage 1)</b>	See <a href="#">here*</a> for more details.	D: -80% Reduction of funds and closure of CRP did not support the analysis of new policies.	5	1
<b>29. Number of policies/ regulations /administrative procedures drafted and presented for public/ stakeholder consultation (Stage 2)</b>	See <a href="#">here*</a> for more details.	D: +0%	1	1
<b>30. Number of policies/ regulations/ administrative procedures presented for legislation (Stage 3)</b>	See <a href="#">here*</a> for more details.	D: -100% Reduction of funds and closure of CRP did not support national partners in presenting policies at legislation level.	1	0
<b>31. Number of policies / regulations / administrative procedures prepared passed/approved (Stage 4)</b>	See <a href="#">here*</a> for more details.	D: -100% Engaged Policy Makers ensured policies passed. However, CRP Target for Stage 4 and Stage 5 are always dependent on Policy Maker thus not easy to predict.	1	0



<b>32. Number of policies / regulations / administrative procedures passed for which implementation has begun (Stage 5)</b>	See <a href="#">here*</a> for more details.	D: 0%	0	0
<b>33. Number of hectares under improved technologies or management practices as a result of CRP research</b>	See <a href="#">here*</a> for more details.	D: -55% Lack of funds to support NARS in promoting technologies to policy makers affected hectares under practices. The target was set for new hectares while for ongoing refer to 2015 AR.	2,000,000	900,000
<b>34. Number of farmers and others who have applied new technologies or management practices as a result of CRP research</b>	See <a href="#">here*</a> for more details.	D: -26% Lack of funds to support NARS in promoting technologies to farmers affected the number of adopters.	400,000	295,000

## Annex 2. Performance indicators for gender mainstreaming with targets defined

PERFORMANCE INDICATOR	CRP PERFORMANCE MEETS REQUIREMENTS
<b>1. Gender equality targets defined</b>	<ul style="list-style-type: none"> <li>Sex-disaggregated social data collected in surveys and used to diagnose important gender-related (and partly age-related) constraints in the CRP's main target action sites (usually part of baselines, impact assessment, specific social research questions); sometimes sex-disaggregated social data part of a wider multidimensional data-set;</li> <li>The CRP has defined and collected baseline data on the main dimensions of gender inequality in the CRP's main target populations relevant to its expected outcomes (IDOs): main subject areas with a contribution to achieving IDOs: access to resources (land, finance, labour) of women and youth; participation in decision making and control of resources; gender gap re wage, income and working conditions; gender-dimension of biodiversity management on farms and climate change adaptation (climate-smart crops; efficient water use); gender-responsive extension services; income generation and dietary diversity through participation of women and youth in value chains (cereals, legumes, trees);</li> </ul> <p><b>Challenge:</b> gender-disaggregation re non-social subjects is in development – first successful pilots carried out; partly quality of data (some non-social scientists did not produce good sex- disaggregated data); partly active creative encouragement of women participation and hearing women's voices.</p>
<b>2. Institutional architecture for integration of gender is in place</b>	<ul style="list-style-type: none"> <li>CRP scientists and managers with responsibility for gender in the CRP's outputs are appointed, have written TORS and funds allocated to support their interaction has been achieved; in some cases, funds allocated had to be reduced or retracted due to the cut of the CRP's finances, but developed ToRs and research concepts serve as a basis to apply for funding elsewhere;</li> <li>Procedures defined to report use of available diagnostic or baseline knowledge on gender routinely for assessment of the gender equality implications of the CRP's flagship research products as per the Gender Strategy has been started in all flagships;</li> <li>CRP M&amp;E system has protocol for tracking progress on integration of gender in research (through the CRP's Monitoring &amp; Evaluation &amp; Learning online platform)</li> <li>A CRP plan approved for capacity development in gender analysis – plan developed and implemented (mainly consisting of cost-efficient online products);</li> <li>The CRP uses feedback provided by its M&amp;E system to improve its integration of gender into research – done in 2015 with a test on the gender capacity of the CRP's scientists, and regarding gender-mainstreaming in biophysical research (not only gender strategic research);</li> </ul> <p><b>Challenge:</b> funding cuts in the middle of program implementation stopped some gender research strategically important to achieve IDOs; while strategies have been found to do gender capacity development with the smallest of funding, the most effective direct exchange with scientists was hardly possible.</p>

### Annex 3. List of Publications and Research Outputs 2016

In 2016, the CGIAR Research Program on Dryland Systems produced 131 journal articles (95 indexed by ISI), 18 book chapters, several working papers (119), datasets (74), proceedings (50) and various other publications including policy, technical briefs and social media outputs (218), in total 610 published knowledge and information products. The knowledge has been reported on [MEL](#) thus ensuring open access fruition and preserving 100% of Dryland Systems outputs. What follows is an updated summary list of all 2015 publications and research outputs produced by each partner CGIAR centers and the Dryland Systems Program Management Unit (PMU). At the end of the document is listed a number of system publications already published in 2017.

#### Dryland Systems Products 2016 (610)

**Table 1. Summary of all ISI publications**

<b>ISI Articles</b>	<b>ISI Factor [range of ISI scores]</b>	<b>Open Access</b>
95	0.17-8.145	54

**Table 2. Summary of Non-ISI Publications**

<b>Non-ISI Articles (systems articles)</b>	<b>Books</b>	<b>Book Chapters</b>	<b>Technical Reports &amp; Working Papers</b>	<b>Proceedings (all conferences materials)</b>	<b>Datasets</b>	<b>Other</b>
36	0	18	119	50	74	218

## Annex 4. CRP Financial Report L-Series Financial Tables

## L 101 - CUMULATIVE FINANCIAL SUMMARY

Name of Report:	CUMULATIVE FINANCIAL SUMMARY (Amounts in USD 000's)				
Frequency/Period:	Annual				
Deadline:	Every April 15th				
Summary Report - by CG Partners	(A) TOTAL POWB BUDGET SINCE INCEPTION				
	Windows 1 & 2	Window 3	Bilateral Funding	Center funds	Total Funding
BIOVERSITY	2,025	210	348	1,387	3,970
CIAT	1,372	184	1,238	-	2,794
CIP	1,404	42	110	-	1,556
ICARDA	23,422	20,381	36,256	-	80,059
ICRAF	2,450	33,447	8,246	-	44,143
ICRISAT	11,371	6,718	17,842	832	36,763
ILRI	4,322	6,223	15,755	74	26,374
IWMI	2,264	134	770	-	3,168
Total for CRP	48,630	67,339	80,565	2,293	198,827
	24%	34%	41%	1%	100%
Summary Report - by CG Partners	(B) ACTUAL CUMULATIVE EXPENSES				
	Windows 1 & 2	Window 3	Bilateral Funding	Center funds	Total Funding
BIOVERSITY	2,025	187	330	1,568	4,110

Name of Report:	CUMULATIVE FINANCIAL SUMMARY (Amounts in USD 000's)				
CIAT	1,372	-	1,393	-	2,765
CIP	1,404	42	110	-	1,556
ICARDA	23,422	20,381	36,256	-	80,059
ICRAF	2,450	27,092	6,661	5	36,208
ICRISAT	11,371	5,502	16,429	832	34,134
ILRI	4,322	5,835	14,772	74	25,003
IWMI	2,264	-	777	-	3,041
<b>Total for CRP</b>	<b>48,630</b>	<b>59,039</b>	<b>76,728</b>	<b>2,479</b>	<b>186,876</b>
	<b>26%</b>	<b>32%</b>	<b>41%</b>	<b>1%</b>	<b>100%</b>
<b>Summary Report - by CG Partners</b>	<b>(C) VARIANCE / BALANCES</b>				
	<b>Windows 1 &amp; 2</b>	<b>Window 3</b>	<b>Bilateral Funding</b>	<b>Center funds</b>	<b>Total Funding</b>
BIOVERSITY	-	23	18	(181)	(140)
CIAT	-	184	(155)	-	29
CIP	-	-	-	-	-
ICARDA	-	-	-	-	-
ICRAF	-	6,355	1,585	(5)	7,935
ICRISAT	-	1,216	1,413	-	2,629
ILRI	-	388	983	-	1,371
IWMI	-	134	(7)	-	127
<b>Total for CRP</b>	<b>-</b>	<b>8,300</b>	<b>3,837</b>	<b>(186)</b>	<b>11,951</b>
	<b>0%</b>	<b>69%</b>	<b>32%</b>	<b>-2%</b>	<b>100%</b>



## L 106 - ANNUAL FUNDING SUMMARY

Name of Report:		ANNUAL FUNDING SUMMARY (Amounts in USD (000's))				
Frequency/Period: Annual						
Deadline	Every April 15th					
PART 1 - Annual FINANCE PLAN (Totals for Windows 1 and 2 combined)						
Approved Level for Year - Initial Approval (as per PIA)						
Approved Level for Year - Final Amount						
PART 2 - Funding Summary for Year						
		2015 Actual Funding				
		Windows 1&2	Window 3	Bilateral Funding	Center Funds	Total Funding
1	CGIAR Fund	2,795	-	-	-	2,795
2	CGIAR System Organization	51	-	-	-	51
3	CIMMYT (funded by USAID)	-	-	1,586	-	1,586
4	ICRAF (funded by IFAD)	-	-	123	-	123
5	ICRAF (funded by PRUNSAR)	-	-	119	-	119
6	ICRAF	-	-	-	5	5
7	IITA (funded by USAID)	-	987	-	-	987
8	IITA (funded by AfDB)	-	-	2,074	-	2,074
9	ILRI (funded by USAID)	-	109	165	-	274
10	ICRISAT (funded by USAID)	-	-	99	-	99
11	ICRISAT (funded by USAID)	-	-	325	-	325
12	ICRISAT	-	-	-	23	23
13	SFF-SM Sehgal Family Foundation/ICRISAT Endowment	-	-	52	-	52
14	ACIAR	-	282	105	-	387
15	ADA, Austria	-	8	81	-	89

Name of Report:		ANNUAL FUNDING SUMMARY (Amounts in USD (000's))				
16	AFESD	-	-	394	-	394
17	ARC, Egypt	-	-	28	-	28
18	Catholic Relief Services (CRS)	-	-	320	-	320
19	DFID	-	-	818	-	818
20	EC	-	-	240	-	240
21	EU	-	-	26	-	26
22	EU-Niger	-	-	359	-	359
23	FAO	-	-	385	-	385
24	Finland	-	-	533	-	533
25	Germany	-	-	916	-	916
26	German Academic Exchange Service	-	-	20	-	20
27	GSA	-	45	-	-	45
28	IFAD	-	1,730	84	-	1,814
29	India	-	156	-	-	156
30	Government of Karnataka, India	-	-	297	-	297
31	Italy	-	-	-	195	195
32	Iran	-	112	142	-	254
33	Kenya Market Trust	-	-	2	-	2
34	Kifiya Financial Technology	-	-	133	-	133
35	Kuwait Fund for Arab Economic Development	-	-	87	-	87
36	McKnight Foundation	-	-	22	-	22
37	Michigan State University	-	-	83	-	83
38	Microsoft Corporation India Private Limited	-	-	26	-	26
39	Morocco	-	30	-	-	30
40	Netherlands	-	8,673	-	-	8,673
41	Netherlands (thru Nedworc Foundation)	-	-	2	-	2
42	OCP Foundation	-	-	464	-	464

Name of Report:		ANNUAL FUNDING SUMMARY (Amounts in USD (000's))				
43	OPEC Fund for International Development	-	-	75	-	75
44	The Bureau of Agricultural Research, Philippines	-	-	5	-	5
45	Regence University of California	-	-	46	-	46
46	Russia	-	1,157	-	-	1,157
47	USAID	-	3,395	171	-	3,566
48	USDA	-	-	739	-	739
49	University of Tasmania (UTAS), Australia	-	-	3	-	3
50	University of Saskatchewan, Canada	-	-	77	-	77
51	University of Twente, Netherlands (funded by BMGF)	-	-	416	-	416
52	University of Wageningen, The Netherlands	-	-	29	-	29
53	World Vision International Zimbabwe	-	-	58	-	58
<b>Total for CRP 1.1 - Dryland Systems</b>		<b>2,846</b>	<b>16,684</b>	<b>11,729</b>	<b>223</b>	<b>31,482</b>
<b>Less: CGIAR Collaboration</b>						
1	-	310	192	-	502	
2	-	408	-	-	408	
<b>Total Net for CRP 1.1 - Dryland Systems</b>		<b>2,846</b>	<b>15,966</b>	<b>11,537</b>	<b>223</b>	<b>30,572</b>

## L 111 – ANNUAL FINANCIAL SUMMARY BY CENTRES

Name of Report:	ANNUAL FINANCIAL SUMMARY BY CENTRES (Amounts in USD (000's))				
Frequency/Period:	Annual				
Deadline:	Every April 15th				
Summary Report - by CG Partners	(A) TOTAL POWB BUDGET SINCE INCEPTION				
	Windows 1 & 2	Window 3	Bilateral Funding	Center funds	Total Funding
BIOVERSITY	60	60	-	148	268
CIAT	140	-	217	-	357
CIP	-	-	-	-	-
ICARDA	2,008	2,256	5,465	-	9,729
ICRAF	135	12,191	2,500	-	14,826
ICRISAT	441	2,200	3,173	23	5,837
ILRI	35	484	2,285	-	2,804
IWMI	44	-	-	-	44
<b>Total for CRP</b>	<b>2,863</b>	<b>17,191</b>	<b>13,640</b>	<b>171</b>	<b>33,865</b>
	<b>8%</b>	<b>51%</b>	<b>40%</b>	<b>1%</b>	<b>100%</b>
Summary Report - by CG Partners	(B) CRP 2016 Expenditure				
	Windows 1 & 2	Window 3	Bilateral Funding	Center funds	Total Funding
BIOVERSITY	60	37	-	195	292
CIAT	140	-	180	-	320
CIP	-	-	-	-	-
ICARDA	2,008	2,256	5,465	-	9,729
ICRAF	121	11,823	933	5	12,882

Name of Report:	ANNUAL FINANCIAL SUMMARY BY CENTRES (Amounts in USD (000's))				
ICRISAT	438	1,444	2,383	23	4,288
ILRI	35	406	2,576	-	3,017
IWMI	44	-	-	-	44
<b>Total for CRP</b>	<b>2,846</b>	<b>15,966</b>	<b>11,537</b>	<b>223</b>	<b>30,572</b>
	<b>9%</b>	<b>52%</b>	<b>38%</b>	<b>1%</b>	<b>100%</b>
<b>Summary Report - by CG Partners</b>	<b>(C) Variance in 2016</b>				
	<b>Windows 1 &amp; 2</b>	<b>Window 3</b>	<b>Bilateral Funding</b>	<b>Center funds</b>	<b>Total Funding</b>
BIOVERSITY	-	23	-	(47)	(24)
CIAT	-	-	37	-	37
CIP	-	-	-	-	-
ICARDA	-	-	-	-	-
ICRAF	14	368	1,567	(5)	1,944
ICRISAT	3	756	790	-	1,549
ILRI	-	78	(291)	-	(213)
IWMI	-	-	-	-	-
<b>Total for CRP</b>	<b>17</b>	<b>1,225</b>	<b>2,103</b>	<b>(52)</b>	<b>3,293</b>
	<b>1%</b>	<b>37%</b>	<b>64%</b>	<b>-2%</b>	<b>100%</b>

**Notes:**

- \$43k expenditure of ICRAF is excluded in the report because this expenditure has been reported under ICARDA in 2014
- ILRI reported a W3 collaboration with CIMMYT amounting to \$60 for the project funded by USAID. Said expenditure was eliminated in the reports (inter-Center activities) but ICARDA has no information about CIMMYT's expenditure relating to said sub-contract.



## L 121 – FINANCIAL SUMMARY BY NATURAL CLASSIFICATION LINES

Name of Report:	ANNUAL FINANCIAL SUMMARY BY NATURAL CLASSIFICATION (Amounts in USD 000's)				
Frequency/Period:	Annual				
Deadline:	Every April 15th				
	<b>Windows 1 &amp; 2</b>	<b>Window 3</b>	<b>Bilateral Funding</b>	<b>Center Funds</b>	<b>Total Funding</b>
<b>Total CRP 1.1</b>	<b>POWB APPROVED BUDGET</b>				
Personnel	1,188	4,200	3,941	122	9,451
Collaborators Costs - CGIAR Centers	-	702	253	-	955
Collaborator Costs - Partners	344	7,402	2,229	-	9,975
Supplies and services	805	2,245	5,169	21	8,240
Operational Travel	169	952	789	-	1,910
Depreciation	16	194	234	-	444
<b>Sub-total of Direct Costs</b>	<b>2,522</b>	<b>15,695</b>	<b>12,615</b>	<b>143</b>	<b>30,975</b>
Indirect Costs	341	2,198	1,278	28	3,845
<b>Total - All Costs</b>	<b>2,863</b>	<b>17,893</b>	<b>13,893</b>	<b>171</b>	<b>34,820</b>
<b>LESS Coll Costs CGIAR Centers</b>	<b>-</b>	<b>(702)</b>	<b>(253)</b>	<b>-</b>	<b>(955)</b>
<b>Total Net Costs</b>	<b>2,863</b>	<b>17,191</b>	<b>13,640</b>	<b>171</b>	<b>33,865</b>
<b>Total CRP 1.1</b>	<b>ACTUAL</b>				
Personnel	1,142	3,344	3,258	158	7,902
Collaborators Costs - CGIAR Centers	-	718	192	-	910
Collaborator Costs - Partners	345	8,865	1,624	-	10,834
Supplies and services	816	1,595	4,690	32	7,133
Operational Travel	187	499	752	5	1,443
Depreciation	16	150	229	-	395
<b>Sub-total of Direct Costs</b>	<b>2,506</b>	<b>15,171</b>	<b>10,745</b>	<b>195</b>	<b>28,617</b>
Indirect Costs	340	1,513	984	28	2,865
<b>Total - All Costs</b>	<b>2,846</b>	<b>16,684</b>	<b>11,729</b>	<b>223</b>	<b>31,482</b>

Name of Report:	ANNUAL FINANCIAL SUMMARY BY NATURAL CLASSIFICATION (Amounts in USD 000's)				
LESS Coll Costs CGIAR Centers	-	(718)	(192)	-	(910)
<b>Total Net Costs</b>	<b>2,846</b>	<b>15,966</b>	<b>11,537</b>	<b>223</b>	<b>30,572</b>
<b>Total CRP 1.1</b>	<b>UNSPENT / VARIANCE</b>				
Personnel	46	856	683	(36)	1,549
Collaborators Costs - CGIAR Centers	-	(16)	61	-	45
Collaborator Costs - Partners	(1)	(1,463)	605	-	(859)
Supplies and services	(11)	650	479	(11)	1,107
Operational Travel	(18)	453	37	(5)	467
Depreciation	-	44	5	-	49
<b>Sub-total of Direct Costs</b>	<b>16</b>	<b>524</b>	<b>1,870</b>	<b>(52)</b>	<b>2,358</b>
Indirect Costs	1	685	294	-	980
<b>Total - All Costs</b>	<b>17</b>	<b>1,209</b>	<b>2,164</b>	<b>(52)</b>	<b>3,338</b>
LESS Coll Costs CGIAR Centers	-	16	(61)	-	(45)
<b>Total Net Costs</b>	<b>17</b>	<b>1,225</b>	<b>2,103</b>	<b>(52)</b>	<b>3,293</b>

BIOVERSITY	POWB APPROVED BUDGET				
Personnel	24	16	-	103	143
Collaborators Costs - CGIAR Centers	-	-	-	-	-
Collaborator Costs - Partners	-	24	-	-	24
Supplies and services	25	12	-	21	58
Operational Travel	3	-	-	-	3
Depreciation	-	-	-	-	-
<b>Sub-total of Direct Costs</b>	<b>52</b>	<b>52</b>	<b>-</b>	<b>124</b>	<b>228</b>
Indirect Costs	8	8	-	24	40
<b>Total - All Costs</b>	<b>60</b>	<b>60</b>	<b>-</b>	<b>148</b>	<b>268</b>
LESS Coll Costs CGIAR Centers	-	-	-	-	-

Name of Report:	ANNUAL FINANCIAL SUMMARY BY NATURAL CLASSIFICATION (Amounts in USD 000's)				
<b>Total Net Costs</b>	<b>60</b>	<b>60</b>	<b>-</b>	<b>148</b>	<b>268</b>
<b>BIOVERSITY</b>	<b>ACTUAL</b>				
Personnel	18	14	-	139	171
Collaborators Costs - CGIAR Centers	-	-	-	-	-
Collaborator Costs - Partners	-	10	-	-	10
Supplies and services	34	8	-	32	74
Operational Travel	-	-	-	-	-
Depreciation	-	-	-	-	-
<b>Sub-total of Direct Costs</b>	<b>52</b>	<b>32</b>	<b>-</b>	<b>171</b>	<b>255</b>
Indirect Costs	8	5	-	24	37
<b>Total - All Costs</b>	<b>60</b>	<b>37</b>	<b>-</b>	<b>195</b>	<b>292</b>
<b>LESS Coll Costs CGIAR Centers</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>
<b>Total Net Costs</b>	<b>60</b>	<b>37</b>	<b>-</b>	<b>195</b>	<b>292</b>
<b>BIOVERSITY</b>	<b>UNSPENT / VARIANCE</b>				
Personnel	6	2	-	(36)	(28)
Collaborators Costs - CGIAR Centers	-	-	-	-	-
Collaborator Costs - Partners	-	14	-	-	14
Supplies and services	(9)	4	-	(11)	(16)
Operational Travel	3	-	-	-	3
Depreciation	-	-	-	-	-
<b>Sub-total of Direct Costs</b>	<b>-</b>	<b>20</b>	<b>-</b>	<b>(47)</b>	<b>(27)</b>
Indirect Costs	-	3	-	-	3
<b>Total - All Costs</b>	<b>-</b>	<b>23</b>	<b>-</b>	<b>(47)</b>	<b>(24)</b>
<b>LESS Coll Costs CGIAR Centers</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>
<b>Total Net Costs</b>	<b>-</b>	<b>23</b>	<b>-</b>	<b>(47)</b>	<b>(24)</b>

Name of Report:	ANNUAL FINANCIAL SUMMARY BY NATURAL CLASSIFICATION (Amounts in USD 000's)				
<b>CIAT</b>	<b>POWB APPROVED BUDGET</b>				
Personnel	43	-	103	-	146
Collaborators Costs - CGIAR Centers	-	-	-	-	-
Collaborator Costs - Partners	-	-	-	-	-
Supplies and services	52	-	62	-	114
Operational Travel	31	-	25	-	56
Depreciation	-	-	-	-	-
<b>Sub-total of Direct Costs</b>	<b>126</b>	<b>-</b>	<b>190</b>	<b>-</b>	<b>316</b>
Indirect Costs	14	-	27	-	41
<b>Total - All Costs</b>	<b>140</b>	<b>-</b>	<b>217</b>	<b>-</b>	<b>357</b>
<b>LESS Coll Costs CGIAR Centers</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>
<b>Total Net Costs</b>	<b>140</b>	<b>-</b>	<b>217</b>	<b>-</b>	<b>357</b>
<b>CIAT</b>	<b>ACTUAL</b>				
Personnel	56	-	88	-	144
Collaborators Costs - CGIAR Centers	-	-	-	-	-
Collaborator Costs - Partners	-	-	-	-	-
Supplies and services	55	-	53	-	108
Operational Travel	15	-	17	-	32
Depreciation	-	-	-	-	-
<b>Sub-total of Direct Costs</b>	<b>126</b>	<b>-</b>	<b>158</b>	<b>-</b>	<b>284</b>
Indirect Costs	14	-	22	-	36
<b>Total - All Costs</b>	<b>140</b>	<b>-</b>	<b>180</b>	<b>-</b>	<b>320</b>
<b>LESS Coll Costs CGIAR Centers</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>
<b>Total Net Costs</b>	<b>140</b>	<b>-</b>	<b>180</b>	<b>-</b>	<b>320</b>
<b>CIAT</b>	<b>UNSPENT / VARIANCE</b>				
Personnel	(13)	-	15	-	2
Collaborators Costs - CGIAR Centers	-	-	-	-	-

Name of Report:	ANNUAL FINANCIAL SUMMARY BY NATURAL CLASSIFICATION (Amounts in USD 000's)				
Collaborator Costs - Partners	-	-	-	-	-
Supplies and services	(3)	-	9	-	6
Operational Travel	16	-	8	-	24
Depreciation	-	-	-	-	-
<b>Sub-total of Direct Costs</b>	-	-	<b>32</b>	-	<b>32</b>
Indirect Costs	-	-	5	-	5
<b>Total - All Costs</b>	-	-	<b>37</b>	-	<b>37</b>
<b>LESS Coll Costs CGIAR Centers</b>	-	-	-	-	-
<b>Total Net Costs</b>	-	-	<b>37</b>	-	<b>37</b>

ICARDA (including the Decentralization)	POWB APPROVED BUDGET				
Personnel	107	696	1,110	-	1,913
Collaborators Costs - CGIAR Centers	-	-	-	-	-
Collaborator Costs - Partners	10	369	1,004	-	1,383
Supplies and services	95	700	2,599	-	3,394
Operational Travel	15	179	274	-	468
Depreciation	16	52	147	-	215
<b>Sub-total of Direct Costs</b>	<b>243</b>	<b>1,996</b>	<b>5,134</b>	-	<b>7,373</b>
Indirect Costs	31	260	331	-	622
<b>Total - All Costs</b>	<b>274</b>	<b>2,256</b>	<b>5,465</b>	-	<b>7,995</b>
<b>LESS Coll Costs CGIAR Centers</b>	-	-	-	-	-
<b>Total Net Costs</b>	<b>274</b>	<b>2,256</b>	<b>5,465</b>	-	<b>7,995</b>
ICARDA (including the Decentralization)	ACTUAL				
Personnel	107	696	1,110	-	1,913
Collaborators Costs - CGIAR Centers	-	-	-	-	-
Collaborator Costs - Partners	10	369	1,004	-	1,383
Supplies and services	95	700	2,599	-	3,394



Name of Report:	ANNUAL FINANCIAL SUMMARY BY NATURAL CLASSIFICATION (Amounts in USD 000's)				
Operational Travel	15	179	274	-	468
Depreciation	16	52	147	-	215
<b>Sub-total of Direct Costs</b>	<b>243</b>	<b>1,996</b>	<b>5,134</b>	<b>-</b>	<b>7,373</b>
Indirect Costs	31	260	331	-	622
<b>Total - All Costs</b>	<b>274</b>	<b>2,256</b>	<b>5,465</b>	<b>-</b>	<b>7,995</b>
<b>LESS Coll Costs CGIAR Centers</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>
<b>Total Net Costs</b>	<b>274</b>	<b>2,256</b>	<b>5,465</b>	<b>-</b>	<b>7,995</b>
<b>ICARDA (including the Decentralization)</b>	<b>UNSPENT / VARIANCE</b>				
Personnel	-	-	-	-	-
Collaborators Costs - CGIAR Centers	-	-	-	-	-
Collaborator Costs - Partners	-	-	-	-	-
Supplies and services	-	-	-	-	-
Operational Travel	-	-	-	-	-
Depreciation	-	-	-	-	-
<b>Sub-total of Direct Costs</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>
Indirect Costs	-	-	-	-	-
<b>Total - All Costs</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>
<b>LESS Coll Costs CGIAR Centers</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>
<b>Total Net Costs</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>

<b>ICRISAT</b>	<b>POWB APPROVED BUDGET</b>				
Personnel	341	627	1,051	19	2,038
Collaborators Costs - CGIAR Centers	-	115	-	-	115
Collaborator Costs - Partners	6	1,024	325	-	1,355
Supplies and services	33	314	1,370	-	1,717
Operational Travel	-	14	152	-	166
Depreciation	-	-	12	-	12

Name of Report:	ANNUAL FINANCIAL SUMMARY BY NATURAL CLASSIFICATION (Amounts in USD 000's)				
<b>Sub-total of Direct Costs</b>	<b>380</b>	<b>2,094</b>	<b>2,910</b>	<b>19</b>	<b>5,403</b>
Indirect Costs	61	221	263	4	549
<b>Total - All Costs</b>	<b>441</b>	<b>2,315</b>	<b>3,173</b>	<b>23</b>	<b>5,952</b>
<b>LESS Coll Costs CGIAR Centers</b>	<b>-</b>	<b>(115)</b>	<b>-</b>	<b>-</b>	<b>(115)</b>
<b>Total Net Costs</b>	<b>441</b>	<b>2,200</b>	<b>3,173</b>	<b>23</b>	<b>5,837</b>
<b>ICRISAT</b>	<b>ACTUAL</b>				
Personnel	329	398	710	19	1,456
Collaborators Costs - CGIAR Centers	-	250	-	-	250
Collaborator Costs - Partners	7	412	436	-	855
Supplies and services	37	358	762	-	1,157
Operational Travel	4	43	198	-	245
Depreciation	-	29	79	-	108
<b>Sub-total of Direct Costs</b>	<b>377</b>	<b>1,490</b>	<b>2,185</b>	<b>19</b>	<b>4,071</b>
Indirect Costs	61	204	198	4	467
<b>Total - All Costs</b>	<b>438</b>	<b>1,694</b>	<b>2,383</b>	<b>23</b>	<b>4,538</b>
<b>LESS Coll Costs CGIAR Centers</b>	<b>-</b>	<b>(250)</b>	<b>-</b>	<b>-</b>	<b>(250)</b>
<b>Total Net Costs</b>	<b>438</b>	<b>1,444</b>	<b>2,383</b>	<b>23</b>	<b>4,288</b>
<b>ICRISAT</b>	<b>UNSPENT / VARIANCE</b>				
Personnel	12	229	341	-	582
Collaborators Costs - CGIAR Centers	-	(135)	-	-	(135)
Collaborator Costs - Partners	(1)	612	(111)	-	500
Supplies and services	(4)	(44)	608	-	560
Operational Travel	(4)	(29)	(46)	-	(79)
Depreciation	-	(29)	(67)	-	(96)
<b>Sub-total of Direct Costs</b>	<b>3</b>	<b>604</b>	<b>725</b>	<b>-</b>	<b>1,332</b>
Indirect Costs	-	17	65	-	82
<b>Total - All Costs</b>	<b>3</b>	<b>621</b>	<b>790</b>	<b>-</b>	<b>1,414</b>

Name of Report:	ANNUAL FINANCIAL SUMMARY BY NATURAL CLASSIFICATION (Amounts in USD 000's)				
LESS Coll Costs CGIAR Centers	-	135	-	-	135
Total Net Costs	3	756	790	-	1,549

ILRI	POWB APPROVED BUDGET				
Personnel	16	176	1,047	-	1,239
Collaborators Costs - CGIAR Centers	-	179	253	-	432
Collaborator Costs - Partners	-	63	100	-	163
Supplies and services	11	128	711	-	850
Operational Travel	4	51	96	-	151
Depreciation	-	-	-	-	-
Sub-total of Direct Costs	31	597	2,207	-	2,835
Indirect Costs	4	66	331	-	401
Total - All Costs	35	663	2,538	-	3,236
LESS Coll Costs CGIAR Centers	-	(179)	(253)	-	(432)
Total Net Costs	35	484	2,285	-	2,804
ILRI	ACTUAL				
Personnel	19	158	1,049	-	1,226
Collaborators Costs - CGIAR Centers	-	60	192	-	252
Collaborator Costs - Partners	-	63	80	-	143
Supplies and services	9	109	991	-	1,109
Operational Travel	2	26	141	-	169
Depreciation	-	-	-	-	-
Sub-total of Direct Costs	30	416	2,453	-	2,899
Indirect Costs	5	50	315	-	370
Total - All Costs	35	466	2,768	-	3,269
LESS Coll Costs CGIAR Centers	-	(60)	(192)	-	(252)

Name of Report:	ANNUAL FINANCIAL SUMMARY BY NATURAL CLASSIFICATION (Amounts in USD 000's)				
<b>Total Net Costs</b>	<b>35</b>	<b>406</b>	<b>2,576</b>	<b>-</b>	<b>3,017</b>
<b>ILRI</b>	<b>UNSPENT / VARIANCE</b>				
Personnel	(3)	18	(2)	-	13
Collaborators Costs - CGIAR Centers	-	119	61	-	180
Collaborator Costs - Partners	-	-	20	-	20
Supplies and services	2	19	(280)	-	(259)
Operational Travel	2	25	(45)	-	(18)
Depreciation	-	-	-	-	-
<b>Sub-total of Direct Costs</b>	<b>1</b>	<b>181</b>	<b>(246)</b>	<b>-</b>	<b>(64)</b>
Indirect Costs	(1)	16	16	-	31
<b>Total - All Costs</b>	<b>-</b>	<b>197</b>	<b>(230)</b>	<b>-</b>	<b>(33)</b>
<b>LESS Coll Costs CGIAR Centers</b>	<b>-</b>	<b>(119)</b>	<b>(61)</b>	<b>-</b>	<b>(180)</b>
<b>Total Net Costs</b>	<b>-</b>	<b>78</b>	<b>(291)</b>	<b>-</b>	<b>(213)</b>

<b>IWMI</b>	<b>POWB APPROVED BUDGET</b>				
Personnel	4	-	-	-	4
Collaborators Costs - CGIAR Centers	-	-	-	-	-
Collaborator Costs - Partners	-	-	-	-	-
Supplies and services	32	-	-	-	32
Operational Travel	2	-	-	-	2
Depreciation	-	-	-	-	-
<b>Sub-total of Direct Costs</b>	<b>38</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>38</b>
Indirect Costs	6	-	-	-	6
<b>Total - All Costs</b>	<b>44</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>44</b>
<b>LESS Coll Costs CGIAR Centers</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>
<b>Total Net Costs</b>	<b>44</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>44</b>

Name of Report:	ANNUAL FINANCIAL SUMMARY BY NATURAL CLASSIFICATION (Amounts in USD 000's)				
<b>IWMI</b>	<b>ACTUAL</b>				
Personnel	4	-	-	-	4
Collaborators Costs - CGIAR Centers	-	-	-	-	-
Collaborator Costs - Partners	-	-	-	-	-
Supplies and services	32	-	-	-	32
Operational Travel	2	-	-	-	2
Depreciation	-	-	-	-	-
<b>Sub-total of Direct Costs</b>	<b>38</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>38</b>
Indirect Costs	6	-	-	-	6
<b>Total - All Costs</b>	<b>44</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>44</b>
<b>LESS Coll Costs CGIAR Centers</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>
<b>Total Net Costs</b>	<b>44</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>44</b>
<b>IWMI</b>	<b>UNSPENT / VARIANCE</b>				
Personnel	-	-	-	-	-
Collaborators Costs - CGIAR Centers	-	-	-	-	-
Collaborator Costs - Partners	-	-	-	-	-
Supplies and services	-	-	-	-	-
Operational Travel	-	-	-	-	-
Depreciation	-	-	-	-	-
<b>Sub-total of Direct Costs</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>
Indirect Costs	-	-	-	-	-
<b>Total - All Costs</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>
<b>LESS Coll Costs CGIAR Centers</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>
<b>Total Net Costs</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>
<b>ICRAF</b>	<b>POWB APPROVED BUDGET</b>				
Personnel	53	2,685	630	-	3,368



Name of Report:	ANNUAL FINANCIAL SUMMARY BY NATURAL CLASSIFICATION (Amounts in USD 000's)				
Collaborators Costs - CGIAR Centers	-	408	-	-	408
Collaborator Costs - Partners	-	5,922	800	-	6,722
Supplies and services	48	1,091	427	-	1,566
Operational Travel	16	708	242	-	966
Depreciation	-	142	75	-	217
<b>Sub-total of Direct Costs</b>	<b>117</b>	<b>10,956</b>	<b>2,174</b>	<b>-</b>	<b>13,247</b>
Indirect Costs	18	1,643	326	-	1,987
<b>Total - All Costs</b>	<b>135</b>	<b>12,599</b>	<b>2,500</b>	<b>-</b>	<b>15,234</b>
<b>LESS Coll Costs CGIAR Centers</b>	<b>-</b>	<b>(408)</b>	<b>-</b>	<b>-</b>	<b>(408)</b>
<b>Total Net Costs</b>	<b>135</b>	<b>12,191</b>	<b>2,500</b>	<b>-</b>	<b>14,826</b>
<b>ICRAF</b>	<b>ACTUAL</b>				
Personnel	9	2,078	301	-	2,388
Collaborators Costs - CGIAR Centers	-	408	-	-	408
Collaborator Costs - Partners	-	8,011	104	-	8,115
Supplies and services	45	420	285	-	750
Operational Travel	51	251	122	5	429
Depreciation	-	69	3	-	72
<b>Sub-total of Direct Costs</b>	<b>105</b>	<b>11,237</b>	<b>815</b>	<b>5</b>	<b>12,162</b>
Indirect Costs	16	994	118	-	1,128
<b>Total - All Costs</b>	<b>121</b>	<b>12,231</b>	<b>933</b>	<b>5</b>	<b>13,290</b>
<b>LESS Coll Costs CGIAR Centers</b>	<b>-</b>	<b>(408)</b>	<b>-</b>	<b>-</b>	<b>(408)</b>
<b>Total Net Costs</b>	<b>121</b>	<b>11,823</b>	<b>933</b>	<b>5</b>	<b>12,882</b>
<b>ICRAF</b>	<b>UNSPENT / VARIANCE</b>				
Personnel	44	607	329	-	980
Collaborators Costs - CGIAR Centers	-	-	-	-	-
Collaborator Costs - Partners	-	(2,089)	696	-	(1,393)
Supplies and services	3	671	142	-	816

Name of Report:	ANNUAL FINANCIAL SUMMARY BY NATURAL CLASSIFICATION (Amounts in USD 000's)				
Operational Travel	(35)	457	120	(5)	537
Depreciation	-	73	72	-	145
<b>Sub-total of Direct Costs</b>	<b>12</b>	<b>(281)</b>	<b>1,359</b>	<b>(5)</b>	<b>1,085</b>
Indirect Costs	2	649	208	-	859
<b>Total - All Costs</b>	<b>14</b>	<b>368</b>	<b>1,567</b>	<b>(5)</b>	<b>1,944</b>
<b>LESS Coll Costs CGIAR Centers</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>
<b>Total Net Costs</b>	<b>14</b>	<b>368</b>	<b>1,567</b>	<b>(5)</b>	<b>1,944</b>

PMU	POWB APPROVED BUDGET				
Personnel	600	-	-	-	600
Collaborators Costs - CGIAR Centers	-	-	-	-	-
Collaborator Costs - Partners	328	-	-	-	328
Supplies and services	509	-	-	-	509
Operational Travel	98	-	-	-	98
Depreciation	-	-	-	-	-
<b>Sub-total of Direct Costs</b>	<b>1,535</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>1,535</b>
Indirect Costs	199	-	-	-	199
<b>Total - All Costs</b>	<b>1,734</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>1,734</b>
<b>LESS Coll Costs CGIAR Centers</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>
<b>Total Net Costs</b>	<b>1,734</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>1,734</b>
PMU	ACTUAL				
Personnel	600	-	-	-	600
Collaborators Costs - CGIAR Centers	-	-	-	-	-
Collaborator Costs - Partners	328	-	-	-	328
Supplies and services	509	-	-	-	509
Operational Travel	98	-	-	-	98
Depreciation	-	-	-	-	-

Name of Report:	ANNUAL FINANCIAL SUMMARY BY NATURAL CLASSIFICATION (Amounts in USD 000's)				
<b>Sub-total of Direct Costs</b>	<b>1,535</b>	-	-	-	<b>1,535</b>
Indirect Costs	199	-	-	-	199
<b>Total - All Costs</b>	<b>1,734</b>	-	-	-	<b>1,734</b>
<b>LESS Coll Costs CGIAR Centers</b>	-	-	-	-	-
<b>Total Net Costs</b>	<b>1,734</b>	-	-	-	<b>1,734</b>
<b>PMU</b>	<b>UNSPENT / VARIANCE</b>				
Personnel	-	-	-	-	-
Collaborators Costs - CGIAR Centers	-	-	-	-	-
Collaborator Costs - Partners	-	-	-	-	-
Supplies and services	-	-	-	-	-
Operational Travel	-	-	-	-	-
Depreciation	-	-	-	-	-
<b>Sub-total of Direct Costs</b>	-	-	-	-	-
Indirect Costs	-	-	-	-	-
<b>Total - All Costs</b>	-	-	-	-	-
<b>LESS Coll Costs CGIAR Centers</b>	-	-	-	-	-
<b>Total Net Costs</b>	-	-	-	-	-

## L 131. ANNUAL FINANCIAL SUMMARY BY FLAGSHIP

Name of Report:	ANNUAL FINANCIAL SUMMARY BY FLAGSHIP		
Frequency/Period:	Annual		
Deadline:	Every April 15th		
	POWB Approved	Current Year Actual Expenditures	Unspent Budget
<b>Summary Report - by Flagship Project</b>			
NAWA	2,931	2,931	-
CA	1,649	1,649	-
WAS	13,924	11,691	2,233
ESA	11,714	10,849	865
SA	2,571	2,340	231
Overarching (CRP Management/Coordination)	2,031	2,022	9
<b>Total - All Costs</b>	<b>34,820</b>	<b>31,482</b>	<b>3,338</b>
<b>Less: Coll Costs CGIAR Centers</b>			
NAWA	-	-	-
CA	-	-	-
WAS	109	238	(129)
ESA	846	673	173
SA	-	-	-
<b>Total - Net Costs</b>	<b>33,865</b>	<b>30,572</b>	<b>3,293</b>
<b>BIOVERSITY</b>			
NAWA	-	-	-
CA	-	-	-
WAS	96	110	(14)
ESA	53	73	(20)
SA	119	109	10

Name of Report:	ANNUAL FINANCIAL SUMMARY BY FLAGSHIP		
Overarching (CRP Management/Coordination)	-	-	-
<b>Total - All Costs</b>	<b>268</b>	<b>292</b>	<b>(24)</b>
<b>Less: Coll Costs CGIAR Centers</b>			
NAWA	-	-	-
CA	-	-	-
WAS	-	-	-
ESA	-	-	-
SA	-	-	-
<b>Total - Net Costs</b>	<b>268</b>	<b>292</b>	<b>(24)</b>

CIAT			
NAWA	-	-	-
CA	-	-	-
WAS	-	-	-
ESA	252	224	28
SA	-	-	-
Overarching (CRP Management/Coordination)	105	96	9
<b>Total - All Costs</b>	<b>357</b>	<b>320</b>	<b>37</b>
<b>Less: Coll Costs CGIAR Centers</b>			
NAWA	-	-	-
CA	-	-	-
WAS	-	-	-
ESA	-	-	-
SA	-	-	-
<b>Total - Net Costs</b>	<b>357</b>	<b>320</b>	<b>37</b>

ICARDA (including the PMU and Decentralization)			
NAWA	2,931	2,931	-
CA	1,649	1,649	-

Name of Report:	ANNUAL FINANCIAL SUMMARY BY FLAGSHIP		
WAS	688	688	-
ESA	1,420	1,420	-
SA	1,153	1,153	-
Overarching (CRP Management/Coordination)	1,888	1,888	-
<b>Total - All Costs</b>	<b>9,729</b>	<b>9,729</b>	<b>-</b>
<b>Less: Coll Costs CGIAR Centers</b>			
NAWA	-	-	-
CA	-	-	-
WAS	-	-	-
ESA	-	-	-
SA	-	-	-
<b>Total - Net Costs</b>	<b>9,729</b>	<b>9,729</b>	<b>-</b>

ICRISAT			
NAWA	-	-	-
CA	-	-	-
WAS	4,198	3,110	1,088
ESA	455	350	105
SA	1,299	1,078	221
Overarching (CRP Management/Coordination)	-	-	-
<b>Total - All Costs</b>	<b>5,952</b>	<b>4,538</b>	<b>1,414</b>
<b>Less: Coll Costs CGIAR Centers</b>			
NAWA	-	-	-
CA	-	-	-
WAS	109	238	(129)
ESA	6	13	(7)
SA	-	-	-
<b>Total - Net Costs</b>	<b>5,837</b>	<b>4,288</b>	<b>1,549</b>

Name of Report:	ANNUAL FINANCIAL SUMMARY BY FLAGSHIP		
ILRI			
NAWA	-	-	-
CA	-	-	-
WAS	-	-	-
ESA	3,236	3,269	(33)
SA	-	-	-
Overarching (CRP Management/Coordination)	-	-	-
Total - All Costs	3,236	3,269	(33)
Less: Coll Costs CGIAR Centers			
NAWA	-	-	-
CA	-	-	-
WAS	-	-	-
ESA	432	252	180
SA	-	-	-
Total - Net Costs	2,804	3,017	(213)

<b>IWMI</b>			
NAWA	-	-	-
CA	-	-	-
WAS	-	-	-
ESA	6	6	-
SA	-	-	-
Overarching (CRP Management/Coordination)	38	38	-
<b>Total - All Costs</b>	<b>44</b>	<b>44</b>	<b>-</b>
<b>Less: Coll Costs CGIAR Centers</b>			
NAWA	-	-	-
CA	-	-	-
WAS	-	-	-
ESA	-	-	-



Name of Report:	ANNUAL FINANCIAL SUMMARY BY FLAGSHIP		
SA	-	-	-
<b>Total - Net Costs</b>	<b>44</b>	<b>44</b>	<b>-</b>

ICRAF			
NAWA	-	-	-
CA	-	-	-
WAS	8,942	7,783	1,159
ESA	6,292	5,507	785
SA	-	-	-
Overarching (CRP Management/Coordination)	-	-	-
<b>Total - All Costs</b>	<b>15,234</b>	<b>13,290</b>	<b>1,944</b>
<b>Less: Coll Costs CGIAR Centers</b>			
NAWA	-	-	-
CA	-	-	-
WAS	-	-	-
ESA	408	408	-
SA	-	-	-
<b>Total - Net Costs</b>	<b>14,826</b>	<b>12,882</b>	<b>1,944</b>

## L 136 - ANNUAL FINANCIAL SUMMARY OF GENDER BY FLAGSHIP

Name of Report:	ANNUAL FINANCIAL SUMMARY OF GENDER BY FLAGSHIP (Amounts in USD 000's)		
Frequency/Period:	Annual		
Deadline:	Every April 15th		
	POWB Approved	Current Year Actual Expenditures	Unspent Budget
Summary Gender Report - by Flagship Project			
NAWA	-		353
CA	-		23
WAS	2,255		2,290
ESA	1,590		1,528
SA	24		198
Overarching (CRP Management / Coordination)	-		344
<b>Total - All Costs</b>	<b>3,869</b>		<b>4,736</b>

<b>BIOVERSITY</b>			
NAWA	-	-	-
CA	-	-	-
WAS	19	22	(3)
ESA	11	14	(3)
SA	24	22	2
Overarching (CRP Management / Coordination)	-	-	-
<b>Total - All Costs</b>	<b>54</b>	<b>58</b>	<b>(4)</b>

<b>ICARDA</b>			
NAWA	-	353	(353)
CA	-	23	(23)

Name of Report:	ANNUAL FINANCIAL SUMMARY OF GENDER BY FLAGSHIP (Amounts in USD 000's)		
WAS	-	-	-
ESA	-	96	(96)
SA	-	68	(68)
Overarching (CRP Management / Coordination)	-	344	(344)
<b>Total - All Costs</b>	-	884	(884)

ICRISAT			
NAWA	-	-	-
CA	-	-	-
WAS	-	311	(311)
ESA	-	35	(35)
SA	-	108	(108)
Overarching (CRP Management / Coordination)	-	-	-
<b>Total - All Costs</b>	-	454	(454)

IWMI			
NAWA	-	-	-
CA	-	-	-
WAS	-	-	-
ESA	6	6	-
SA	-	-	-
Overarching (CRP Management / Coordination)	-	-	-
<b>Total - All Costs</b>	6	6	-

ICRAF			
NAWA	-	-	-
CA	-	-	-

Name of Report:	ANNUAL FINANCIAL SUMMARY OF GENDER BY FLAGSHIP (Amounts in USD 000's)		
WAS	2,236	1,957	279
ESA	1,573	1,377	196
SA	-	-	
Overarching (CRP Management / Coordination)	-	-	-
<b>Total - All Costs</b>	<b>3,809</b>	<b>3,334</b>	<b>475</b>

## L 211 – CRP PARTNERSHIPS REPORT

Name of Report:		CRP PARTNERSHIPS REPORT						
Frequency/Period:		Annual						
Deadline:		Every April 15th						
TOTAL FOR CRP 1.1		ACTUAL EXPENSES - THIS YEAR						
Item	Institute Acronym	Institute Name	Country	Windows 1 & 2	Window 3	Bilateral	Center Funds	TOTAL
1	UHS	University of Horticultural Sciences	India	-	7	-	-	7
2	GRAVIS	Gramin Vikas Vigyan Samiti	India	-	3	-	-	3
3	CIHEAM-IAMM	Institut Agronomique Mediterranee De Montpellier	France	10	-	-	-	10
4		Department of Agricultural Food and Forestry Systems / Universita Degli Studi Firenze	Italy	52	-	-	-	52
5	GFAR	The Global Forum on Agricultural Research on behalf of Young Professionals For Agricultural Development	Italy	16	-	-	-	16
6		The Univesity of Leeds	Netherlands	67	-	-	-	67
7		ETH Zurich	Switzerland	36	-	-	-	36
8	iMMAP	Information Management and Mine Action Programs	United States of America	157	-	-	-	157
9		ITGC	Algeria	-	7	-	-	7
10		University of Natural Resources and Applied Life Sciences	Austria	-	6	-	-	6
11		Plant Wealth Directorate , Ministry of Municipalities Affairs and Urban Planning	Bahrain	-	3	-	-	3
12	ARC	Agricultural Research Center	Egypt	-	22	15	-	37

Name of Report:		CRP PARTNERSHIPS REPORT						
13		Water Management Research Institute	Egypt	-	1	-	-	1
14	CAZRI	Central Arid Zone Research Institute	India	-	25	-	-	25
15	IGFRI	Indian Grassland and Fodder Research Institute	India	-	10	-	-	10
16		Office of Agricultural Research Iraq	Iraq	-	12	-	-	12
17	NCARE	National Center for Agricultural Research and Extension	Jordan	-	6	10	-	16
18	KARI	Kenya Agricultural Research Institute	Kenya	-	10	-	-	10
19	PAAA	Public Authority of Agriculture Affairs	Kuwait	-	6	-	-	6
20		The American University of Beirut	Lebanon	-	5	-	-	5
21	LARI	The Lebanese Agricultural Research Institute	Lebanon	-	11	-	-	11
22	INRA	Institut National de la Recherche Agronomique	Morocco	-	25	199	-	224
23	NARC	National Agricultural Research Center	Palestine	-	12	16	-	28
24		Ministry of Municipality & Environment, Qatar	Qatar	-	1	-	-	1
25		National Center for Agricultural Research and Animal Resources /Ministry of Agriculture Kingdom of Saudi Arabia	Saudi Arabia	-	3	-	-	3
26	ARC	Agricultural Research Corporation	Sudan	-	32	50	-	82
27		Farm "Isticlol"	Tajikistan	-	9	-	-	9
28		Sogd Branch of Tajik RI of Livestock	Tajikistan	-	11	-	-	11
29	IRA		Institut des Regions Arides		-	11	4	-

Name of Report:		CRP PARTNERSHIPS REPORT						
30	INRAT	Institut National de Recherche Agronomique de Tunis	Tunisia	-	6	28	-	34
31		Agricultural Research Ministry of Environment & Water Dubai	United Arab Emirates	-	1	-	-	1
32		Al Rayyan GreenHouse CO.,LLC	United Arab Emirates	-	1	-	-	1
33		University of Florida	United States of America	-	1	-	-	1
34	AESRIVMCP	Andijan Experimental Station of the Research Institute of Vegetable, Melon Crops and Potato	Uzbekistan	-	1	-	-	1
35		Crop Husbandry Research Institute of Karakalpakstan	Uzbekistan	-	8	-	-	8
36		Kashkadarya branch of the Andijan SRI of Grain and Legume Crops	Uzbekistan	-	9	-	-	9
37	KRASS	Khorezm Rural Advisory Support Service	Uzbekistan	-	25	-	-	25
38		Kodyrjon Azamjon Water user Association of Kuva District	Uzbekistan	-	2	-	-	2
39		Research Institute of Farming of Karakaplakstan	Uzbekistan	-	14	-	-	14
40	SIC ICWC	Scientific Information Centre of Interstate Commission for Water Coordination of Central Asia	Uzbekistan	-	7	-	-	7
41		Uzbek SRI of Plant Industry	Uzbekistan	-	8	-	-	8
42	AREA	The Agricultural Research and Extension Authority	Yemen	-	58	10	-	68
43		Zagazik University	Egypt	-	-	16	-	16
44		Debre Birhan Agricultural Research Center	Ethiopia	-	-	7	-	7
45	EIAR	Ethiopian Institute Of Agricultural Research	Ethiopia	-	-	44	-	44
46		Gonder Agricultural Research Center	Ethiopia	-	-	4	-	4



Name of Report:		CRP PARTNERSHIPS REPORT						
47		Universität Hohenheim	Germany	-	-	74	-	74
48		Bidhan Chandra Krishi Viswavidyalaya	India	-	-	11	-	11
49		Bolpur Manab Jamin	India	-	-	10	-	10
50	ICAR-NEH	ICAR Research Complex for North Eastern Hill Region-Tripura	India	-	-	10	-	10
51		KVK Dhalai	India	-	-	10	-	10
52		President/ Treasurer MESADM	India	-	-	9	-	9
53	PAU	Punjab Agricultural University	India	-	-	4	-	4
54		RVSKVV, Gwalior	India	-	-	10	-	10
55		Tagore Society for Rural Development, Rangabelia Project	India	-	-	9	-	9
56		UBKV	India	-	-	10	-	10
57		The Hashemite Fund for Development of Jordan Badia	Jordan	-	-	3	-	3
58	IAV	Institut Agronomique et Vétérinaire Hassan II	Morocco	-	-	9	-	9
59	LCRI	Lake Chad Research Institute	Nigeria	-	-	14	-	14
60		Agriculture & Biological Research Institute	Pakistan	-	-	24	-	24
61		Agriculture Extension Institute, Sindh	Pakistan	-	-	32	-	32
62	ARI	Agriculture Research Institute	Pakistan	-	-	27	-	27
63		Barani Agriculture Research Institute	Pakistan	-	-	4	-	4
64		Land Resources Research Institute	Pakistan	-	-	28	-	28

Name of Report:		CRP PARTNERSHIPS REPORT						
65		M/S National Rural Support Programme	Pakistan	-	-	7	-	7
66		National Centre of Excellence in Gology, University of Peshawar	Pakistan	-	-	52	-	52
67	PCRWR	Pakistan Council of Research in Water Resources	Pakistan	-	-	11	-	11
68		Social Sciences Research Institute, NARC	Pakistan	-	-	30	-	30
69		Soil & Water Conservation Research Institute	Pakistan	-	-	29	-	29
70		Soil Fertility Research Institute	Pakistan	-	-	16	-	16
71		South Asian Conservation for Agriculture Network Services	Pakistan	-	-	12	-	12
72		University of Agriculture Faisalabad	Pakistan	-	-	51	-	51
73		General Commission for Scientific Agricultural Research Syria	Syria	-	-	10	-	10
74	INGC	Institut National Des Grandes Cultures	Tunisia	-	-	52	-	52
75	OEP	Office de l'Elevage et des Pâturages	Tunisia	-	-	33	-	33
76	ICRAF (funded by USAID)	International Center For Research In Agroforestry	Kenya	-	122	-	-	122
77	ILRI (funded by USAID)	International Livestock Research Institute	Kenya	-	128	-	-	128
78	IDE	International Development Enterprises	Ethiopia	4	-	-	-	4
79	KVK	KVK	India	3	-	-	-	3
80	AKF	Aga Khan Foundation	Mali	-	67	-	-	67
81	MALI METEO	Agence Nationale De La Meteorologie	Mali	-	49	-	-	49
82	AMEDD	Association Malienne D Eveil Au Development Durable	Mali	-	92	64	-	156

Name of Report:		CRP PARTNERSHIPS REPORT						
83	CAAD	Center D Appui A L Autopromotion Pour Le Development	Mali	-	9	-	-	9
84	GRAADECOM	Groupe De Recherche Action Et Assistance Pour Le Development Communautaire	Mali	-	9	-	-	9
85	IER	Institut D'Economie Rurale	Mali	-	121	13	-	134
86	AMASSA	The Association Malienne Pour La Securite Et La Souverainete Alimentaire	Mali	-	1	-	-	1
87	WV	World Vision	Netherlands	-	64	-	-	64
88	BUK	Bayero University Kano	Nigeria	-	-	22	-	22
89	IIAM	Instituto De Investigacao Agraria De Mozambique	Mozambique	-	-	5	-	5
90	AMEDD	L'Association Malienne D' Eveil Pour Le Developpement Durable	Mali	-	-	4	-	4
91	MANOBI	Manobi S. A	Senegal	-	-	64	-	64
92	NASRDA	National Space Research and Development Agency Abuja	Nigeria	-	-	16	-	16

Name of Report:		CRP PARTNERSHIPS REPORT						
93		Ong Asv Dosso	Niamey	-	-	69	-	69
94		Ong Cdr Zinder	Niamey	-	-	80	-	80
95	UCL	Universite Catholique De Louvain	Belgium	-	-	76	-	76
96	UDES	Universite De Sherbrooke	Canada	-	-	6	-	6
97	WUR	Wageningen University	India	-	-	17	-	17
98	CORNELL	Cornell University	United States of America	-	-	48	-	48
99	CIMMYT (funded by USAID)	International Maize and Wheat Improvement Center	Mexico	-	60	-	-	60

Name of Report:		CRP PARTNERSHIPS REPORT						
100	ICARDA (funded by USAID)	International Center for Agricultural Research in the Dry Areas	Lebanon	-	-	192	-	<b>192</b>
101	UAF	University Of Agriculture	Pakistan	-	-	24	-	<b>24</b>
102	NARL	National Agricultural Research Laboratories Kawanda	Uganda	-	-	8	-	<b>8</b>
103	TANGO	Tango International	United States of America	-	63	-	-	<b>63</b>
104	ICRISAT (funded by IFAD)	International Crop Reseach Institute for the Semi-Arid tropics		-	266	-	-	<b>266</b>
105	ICARDA (funded by IFAD)	International Center for Agricultural Research in the Dry Areas		-	20	-	-	<b>20</b>
106	ILRI (funded by IFAD)	International Livestock Research Institute	Ethiopia	-	122	-	-	<b>122</b>
107	Care Niger	Care Niger International	Niger	-	1,035	-	-	<b>1,035</b>

Name of Report:		CRP PARTNERSHIPS REPORT						
108		Sahel Eco	Mali	-	1,235	-	-	1,235
109		Reseau Marp Burkina	Burkina Faso	-	1,200	-	-	1,200
110		Bangor University	United Kingdom	-	71	21	-	92
111		W V Australia	Australia	-	2,969	-	-	2,969
112		Agha Khan Foundation	USA	-	331	-	-	331
113		ICCO Coperation	Mali	-	386	-	-	386
114	CRS	Catholic Relief Services	Mali	-	295	-	-	295
115		Mali Biocurbarant	Mali	-	153	-	-	153
116		World Vision	Mali	-	258	-	-	258

Name of Report:		CRP PARTNERSHIPS REPORT						
117		Sierra Leone Agricultural Institute	Sierra Leone	-	-	35	-	35
118		Bio Climate Research AND Development Co.	Scotland	-	-	28	-	28
119		Insitut d Economie Rurale	Mali	-	-	20	-	20
120		Other <10,000		-	78	-	-	78
Total for CRP				345	9,583	1,816	-	11,744

BIOVERSITY				Actual Expenses - This Year				
Item	Institute Acronym	Institute Name	Country	Windows 1 & 2	Window 3	Bilateral	Center Funds	TOTAL
1	UHS	University of Horticultural Sciences	India	-	7	-	-	7
2	GRAVIS	Gramin Vikas Vigyan Samiti	India	-	3	-	-	3
Total for CRP				-	10	-	-	10

ICARDA				Actual Expenses - This Year				
Item	Institute Acronym	Institute Name	Country	Windows 1 & 2	Window 3	Bilateral	Center Funds	TOTAL
1	CIHEAM-IAMM	Institut Agronomique Mediterranee De Montpellier	France	10	-	-	-	10
2		Department of Agricultural Food and Forestry Systems / Universita Degli Studi Firenze	Italy	52	-	-	-	52
3	GFAR	The Global Forum on Agricultural Research on behalf of Young Professionals for Agricultural Development	Italy	16	-	-	-	16
4		The Univesity of Leeds	Netherlands	67	-	-	-	67
5		ETH Zurich	Switzerland	36	-	-	-	36
6	iMMAP	Information Management and Mine Action Programs	United States of America	157	-	-	-	157
7		ITGC	Algeria	-	7	-	-	7



Name of Report:		CRP PARTNERSHIPS REPORT						
8		University of Natural Resources and Applied Life Sciences	Austria	-	6	-	-	6
9		Plant Wealth Directorate, Ministry of Municipalities Affairs and Urban Planning	Bahrain	-	3	-	-	3
10	ARC	Agricultural Research Center	Egypt	-	22	15	-	37
11		Water Management Research Institute	Egypt	-	1	-	-	1
12	CAZRI	Central Arid Zone Research Institute	India	-	25	-	-	25
13	IGFRI	Indian Grassland and Fodder Research Institute	India	-	10	-	-	10
14		Office of Agricultural Research Iraq	Iraq	-	12	-	-	12
15	NCARE	National Center for Agricultural Research and Extension	Jordan	-	6	10	-	16
16	KARI	Kenya Agricultural Research Institute	Kenya	-	10	-	-	10
17	PAAA	Public Authority of Agriculture Affairs	Kuwait	-	6	-	-	6
18		The American University of Beirut	Lebanon	-	5	-	-	5
19	LARI	The Lebanese Agricultural Research Institute	Lebanon	-	11	-	-	11
20	INRA	Institut National de la Recherche Agronomique	Morocco	-	25	199	-	224
21	NARC	National Agricultural Research Center	Palestine	-	12	16	-	28
22		Ministry of Municipality & Environment, Qatar	Qatar	-	1	-	-	1
23		National Center for Agricultural Research and Animal Resources /Ministry of Agriculture Kingdom of Saudi Arabia	Saudi Arabia	-	3	-	-	3
24	ARC	Agricultural Research Corporation	Sudan	-	32	50	-	82
25		Farm "Isticlol"	Tajikistan	-	9	-	-	9
26		Sogd Branch of Tajik RI of Livestock	Tajikistan	-	11	-	-	11
27	IRA	Institut des Regions Arides	Tunisia	-	11	4	-	15
28	INRAT	Institut National de Recherche Agronomique de Tunis	Tunisia	-	6	28	-	34
29		Agricultural Research Ministry of Environment & Water Dubai	United Arab Emirates	-	1	-	-	1
30		Al Rayyan GreenHouse CO., LLC	United Arab Emirates	-	1	-	-	1

Name of Report:		CRP PARTNERSHIPS REPORT						
31		University of Florida	United States of America	-	1	-	-	1
32	AESRIVMCP	Andijan Experimental Station of the Research Institute of Vegetable, Melon Crops and Potato	Uzbekistan	-	1	-	-	1
33		Crop Husbandry Research Institute of Karakalpakstan	Uzbekistan	-	8	-	-	8
34		Kashkadarya branch of the Andijan SRI of Grain and Legume Crops	Uzbekistan	-	9	-	-	9
35	KRASS	Khorezm Rural Advisory Support Service	Uzbekistan	-	25	-	-	25
36		Kodyrjon Azamjon Water user Association of Kuva District	Uzbekistan	-	2	-	-	2
37		Research Institute of Farming of Karakalpakstan	Uzbekistan	-	14	-	-	14
38	SIC ICWC	Scientific Information Centre of Interstate Commission for Water Coordination of Central Asia	Uzbekistan	-	7	-	-	7
39		Uzbek SRI of Plant Industry	Uzbekistan	-	8	-	-	8
40	AREA	The Agricultural Research and Extension Authority	Yemen	-	58	10	-	68
41		Zagazik University	Egypt	-	-	16	-	16
42		Debre Birhan Agricultural Research Center	Ethiopia	-	-	7	-	7
43	EIAR	Ethiopian Institute Of Agricultural Research	Ethiopia	-	-	44	-	44
44		Gonder Agricultural Research Center	Ethiopia	-	-	4	-	4
45		Universität Hohenheim	Germany	-	-	74	-	74
46		Bidhan Chandra Krishi Viswavidyalaya	India	-	-	11	-	11
47		Bolpur Manab Jamin	India	-	-	10	-	10
48	ICAR-NEH	ICAR Research Complex for North Eastern Hill Region-Tripura	India	-	-	10	-	10
49		KVK Dhalai	India	-	-	10	-	10
50		President/ Treasurer MESADM	India	-	-	9	-	9
51	PAU	Punjab Agricultural University	India	-	-	4	-	4
52		RVSQV, Gwalior	India	-	-	10	-	10
53		Tagore Society for Rural Development, Rangabelia Project	India	-	-	9	-	9

Name of Report:		CRP PARTNERSHIPS REPORT						
54		UBKV	India	-	-	10	-	10
55		The Hashemite Fund for Development of Jordan Badia	Jordan	-	-	3	-	3
56	IAV	Institut Agronomique et Vétérinaire Hassan II	Morocco	-	-	9	-	9
57	LCRI	Lake Chad Research Institute	Nigeria	-	-	14	-	14
58		Agriculture & Biological Research Institute	Pakistan	-	-	24	-	24
59		Agriculture Extension Institute, Sindh	Pakistan	-	-	32	-	32
60	ARI	Agriculture Research Institute	Pakistan	-	-	27	-	27
61		Barani Agriculture Research Institute	Pakistan	-	-	4	-	4
62		Land Resources Research Institute	Pakistan	-	-	28	-	28
63		M/S National Rural Support Programme	Pakistan	-	-	7	-	7
64		National Centre of Excellence in Geology, University of Peshawar	Pakistan	-	-	52	-	52
65	PCRWR	Pakistan Council of Research in Water Resources	Pakistan	-	-	11	-	11
66		Social Sciences Research Institute, NARC	Pakistan	-	-	30	-	30
67		Soil & Water Conservation Research Institute	Pakistan	-	-	29	-	29
68		Soil Fertility Research Institute	Pakistan	-	-	16	-	16
69		South Asian Conservation for Agriculture Network Services	Pakistan	-	-	12	-	12
70		University of Agriculture Faisalabad	Pakistan	-	-	51	-	51
71		General Commission for Scientific Agricultural Research Syria	Syria	-	-	10	-	10
72	INGC	Institut National Des Grandes Cultures	Tunisia	-	-	52	-	52
73	OEP	Office de l'Elevage et des Pâturages	Tunisia	-	-	33	-	33
Total for CRP				338	369	1,004	-	1,711

ICRAF				Actual Expenses - This Year				
Item	Institute Acronym	Institute Name	Country	Windows 1 & 2	Window 3	Bilateral	Center Funds	TOTAL

Name of Report:		CRP PARTNERSHIPS REPORT						
1	ICRISAT (funded by IFAD)	International Crop Research Institute for the Semi Arid tropics	India	-	266	-	-	266
2	ICARDA (funded by IFAD)	International Center for Agricultural Research in the Dry Areas	Lebanon	-	20	-	-	20
3	ILRI (funded by IFAD)	Intl Livestock Research Institute	Ethiopia	-	122	-	-	122
4	Care Niger	Care Niger International	Niger	-	1,035	-	-	1,035
5		Sahel Eco	Mali	-	1,235	-	-	1,235
6		Reseau Marp Burkina	Burkina Faso	-	1,200	-	-	1,200
7		Bangor University	United Kingdom	-	71	21	-	92
8		W V Australia	Australia	-	2,969	-	-	2,969
9		Agha Khan Foundation	USA	-	331	-	-	331
10		ICCO Coperation	Mali	-	386	-	-	386
11	CRS	Catholic Relief Services	Mali	-	295	-	-	295
12		Mali Biocurbarant	Mali	-	153	-	-	153
13		World Vision	Mali	-	258	-	-	258
14		Sierra Leone Agricultural Institute	Sierra Leone	-	-	35	-	35
15		Bio Climate Research AND Development Co.	Scotland	-	-	28	-	28
16		Insitut d Economie Rurale	Mali	-	-	20	-	20
17		Other <10,000		-	78	-	-	78

Name of Report:	CRP PARTNERSHIPS REPORT						
Total for CRP			-	8,419	104	-	8,523

ICRISAT				Actual Expenses - This Year				
Item	Institute Acronym	Institute Name	Country	Windows 1 & 2	Window 3	Bilateral	Center Funds	TOTAL
1	ICRAF (funded by USAID)	International Center For Research In Agroforestry	Kenya	-	122	-	-	122
2	ILRI (funded by USAID)	International Livestock Research Institute	Kenya	-	128	-	-	128
3	IDE	International Development Enterprises	Ethiopia	4	-	-	-	4
4	KVK	KVK	India	3	-	-	-	3
5	AKF	Aga Khan Foundation	Mali	-	67	-	-	67
6	MALI METEO	Agence Nationale De La Meteorologie	Mali	-	49	-	-	49
7	AMEDD	Association Malienne D Eveil Au Development Durable	Mali	-	92	64	-	156
8	CAAD	Center D Appui A L Autopromotion Pour Le Development	Mali	-	9	-	-	9
9	GRAADECOR	Groupe De Recherche Action Et Assistance Pour Le Development Communautaire	Mali	-	9	-	-	9
10	IER	Institut D'Economie Rurale	Mali	-	121	13	-	134
11	AMASSA	The Association Malienne Pour La Securite Et La Souverainete Alimentaire	Mali	-	1	-	-	1
12	WV	World Vision	Netherlands	-	64	-	-	64
13	BUK	Bayero University Kano	Nigeria	-	-	22	-	22
14	IIAM	Instituto De Investigacao Agraria De Mozambique	Mozambique	-	-	5	-	5

Name of Report:		CRP PARTNERSHIPS REPORT						
15	AMEDD	L'Association Malienne D' Eveil Pour Le Developpement Durable	Mali	-	-	4	-	4
16	MANOBI	Manobi S. A	Senegal	-	-	64	-	64
17	NASRDA	National Space Research And Development Agency Abuja	Nigeria	-	-	16	-	16
18		Ong Asv Dosso	Niamey	-	-	69	-	69
19		Ong Cdr Zinder	Niamey	-	-	80	-	80
20	UCL	Universite Catholique De Louvain	Belgium	-	-	76	-	76
21	UDES	Universite De Sherbrooke	Canada	-	-	6	-	6
22	WUR	Wageningen University	India	-	-	17	-	17
Total for CRP				7	662	436	-	1,105

ILRI				Actual Expenses - This Year				
Item	Institute Acronym	Institute Name	Country	Windows 1 & 2	Window 3	Bilateral	Center Funds	TOTAL
1	CORNELL	Cornell University	United States of America	-	-	48	-	48
2	CIMMYT (funded by USAID)	International Maize and Wheat Improvement Center	Mexico	-	60	-	-	60
3	ICARDA (funded by USAID)	International Center for Agricultural Research in the Dry Areas	Lebanon	-	-	192	-	192
4	UAF	University Of Agriculture	Pakistan	-	-	24	-	24
5	NARL	National Agricultural Research Laboratories Kawanda	Uganda	-	-	8	-	8

Name of Report:		CRP PARTNERSHIPS REPORT						
6	TANGO	Tango International	United States of America	-	63	-	-	63
Total for CRP				-	123	272	-	395

TOTAL FOR CRP 1.1				Actual Expenses - This Year				
				Windows 1 & 2	Window 3	Bilateral	Center Funds	TOTAL
1	BIOVERSITY			-	10	-	-	10
2	ICARDA			338	369	1,004	-	1,711
3	ICRAF			-	8,419	104	-	8,523
4	ICRISAT			7	662	436	-	1,105
5	ILRI			-	123	272	-	395
Total for CRP				345	9,583	1,816	-	11,744



## Appendix 5: The MENA INITIATIVE

### Transforming Rural Futures: Sustainable and Resilient Futures in the Middle East and North Africa (MENA) through Improved Agricultural Value Chains and Innovation Systems

<b>Proposing organization</b>	International Center for Agricultural Research in Dry Areas (ICARDA) and its partners
<b>Contact name and title</b>	Mr. Aly Abousabaa, Director General
<b>Contact address</b>	<a href="mailto:a.abousabaa@cgiar.org">a.abousabaa@cgiar.org</a>
<b>Duration</b>	10 year, phased process
<b>Project coordination</b>	International Center for Agricultural Research in Dry Areas (ICARDA)
<b>Partners</b>	International and national partners including UN Agencies, development organizations, advanced research institutions (ARIs), private sector, NGOs
<b>Region focus</b>	MENA Region, with an initial focus on Egypt, Jordan, Lebanon, Morocco, Syria and Tunisia and scalable to other MENA and African countries that are afflicted with high unemployment and illegal immigration outflows
<b>Impact</b>	Through the scaling up of existing proven technological packages and development of strong value chains, current projections anticipate over 1.5 million jobs will be created through the MENA Initiative and across the region. An example of this includes the effects of large-scale raised bed adoption in Egypt that provides an indication of projected impact. Currently, the Egyptian government is targeting 700,000 ha of wheat cultivated using raised bed (RB) technology by 2020 – which is 60% of the current wheat area. Projected large-scale implementation of RB in Egypt anticipates a 30% reduction in water use; 25% increase in yields; 50% reduction in seeding rate; and a 72% increase in water use efficiency. As a result of this, it is anticipated that wheat production in Egypt will increase from 8 million tons in 2017 to more than 14 million tons in 2025. As a further economic impact, local wheat production could result in reduced imports from 50% to 20% in the same timeframe, reducing total wheat import cost by US\$1.5 billion. More importantly, however, the net benefits associated with the raised-bed package is 40% higher than those using conventional farming practices. As a result, increased farming income in Egypt could benefit 4.2 million Egyptians by 2023.
<b>Implementation arrangements and phasing</b>	<p>The funding for the MENA Initiative is envisioned as a three phases-part plan. In the first instance, it is anticipated that the Inception Phase, Phase 1 and part of Phase 2 will be supported by bilateral grants from public and private sector funding sources. Following this, Phase 2 and beyond will be supported by a mix of funding from grants, bilateral funds, and loans from international development banks to both encourage country buy-in and long-term country ownership of the MENA Initiative.</p> <ul style="list-style-type: none"> <li>• Inception Phase – up to 1 year: Identify and strengthen partnerships; roles and responsibilities decided; donor support solicited; program of work and budget defined; and monitoring and evaluation mechanisms designed. Country stakeholders from the concerned ministries identified (Agriculture, Water, Rural Development, Economy, Planning, Youth and other concerned line ministries); research institutions, the private sector, NGOs, civil society, rural community groups and others will identify how the MENA Initiative complements on-going efforts and national programs i.e. Morocco: Green Morocco Plan; Lebanon's Ministry of Agriculture Strategy 2015-2019; The Sustainable Development Strategy of Egypt (Egypt Vision 2030) and its Agricultural Strategy 2030; Jordan's 2025 Plan; Tunisia's 5-Year Development Plan (2016-2020) and in the future rehabilitation efforts of the Syrian agricultural sector to determine their efforts and work through these initiatives. (\$10 million, including initiation of Phase 1)</li> </ul>

	<ul style="list-style-type: none"> <li>• Phase 1 – up to 3 years: Integrate and implement proven and tested packages of work to Initiatives countries and scale across – <i>30% of funds (\$180 million)</i></li> <li>• Phase 2 – 3-5 years: Further develop the pipeline of work and integrate technical packages and innovations for dissemination and scaling. Phase 2 will include a strong focus on value chain development – <i>30% of funds (\$180 million)</i></li> <li>• Phase 3 – 5-10 years: Transformation process, supporting the development of an enabling policy environment institutionally, nationally and regionally – <i>40% of funds (\$240 million)</i></li> </ul>
<b>Role of ICARDA</b>	<p>ICARDA will provide the overall coordination for the MENA Initiative and lead on the inclusion of different partners across the different work packages and value chains.</p> <p>With the support of partners, ICARDA will lead Work Package 1: Agro-ecological productivity and sustainability. Work Packages 2 and 3 (Economic Sustainability and growth and Youth, gender and social change) will be led by other partners with ICARDA providing technical backstopping and input. Work Package 4: Enabling Environment, will be led by IFPRI in partnership with ICARDA.</p>
<b>Requested Budget</b>	\$10 million to fund <b>ICARDA</b> and partners in the development of the Inception Phase and the initiation of Phase 1
<b>Total Investment</b>	\$600 million over 10 years in 6 countries (Egypt, Jordan, Lebanon, Morocco, Syria and Tunisia)
<b>Intended beneficiaries</b>	Rural youth, women, communities, farmers and other stakeholders along the value chain
<b>Key words</b>	MENA region development; agricultural productivity; food security and nutrition; sustainability; economic sustainability and inclusive growth; gender; enabling environment; rural agriculture; value chains; climate change; education; income

<b>Initiative status</b>	The development of ICARDA's MENA Initiative has included discussions with key stakeholders comprising donors, NARS, development actors and other research centers both in group meetings and meetings one-on-one with donors. This is an on-going process.
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<b>Request to Norway</b>	The MENA Initiative has reached a critical phase of development and requires support to launch it in a robust and efficient way. ICARDA's request to Norway is to convene and champion the MENA Initiative, providing USD \$10 million to support the inception phase of this work and the initiation of Component 1, Agro-ecological productivity and sustainability. Successful funding and implementation of the Inception Phase will support subsequent funding efforts from potential donors and the full elaboration of implementation arrangements under different contexts, including the roles of specific partners in the implementation of the Initiative.
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The MENA Initiative, proposed by ICARDA in consultation and collaboration with its key partners<sup>4</sup> addresses some of the root causes of political and social instability in the MENA Region and its 28

<sup>4</sup> Over the past 12 months several meetings have been convened to discuss the initiative with key stakeholders including a meeting in Agropolis, Montpellier, France in March 2016 with representatives of NARSs from the MENA, the EC, Agropolis, GFAR, AARINENA, IFPRI, CIHEAM, CIRAD, and the S-N Mediterranean Foundation. It was also discussed with IFAD, FAO, EC and Belgium on a bilateral basis and during the CIHEAM Ministerial Level meeting in Tirana, Albania on September 22, 2016 and during COP22 in Marrakesh, Morocco.

million rural inhabitants. This work will precipitate the transition of rural youth, women, and poor and marginalized communities out of poverty and gain access to quality education and work, supporting better incomes and sustainable infrastructure by strengthening technical and financial capacities to use and manage natural resources in an equitable and sustainable way. This will be achieved by bringing together diverse partners and actors along the value chains of key agricultural commodities, for an immediate scaling up of readily available technologies for rapid impact, testing and developing practical solutions to create market access and economic activity while fostering climate resilience, stewardship of natural resources and sustainable land management.

The MENA Region, here defined as Algeria, Egypt, Jordan, Lebanon, Morocco, Palestine, Syria and Tunisia, faces huge pressures including conflict, civil war and social unrest, mass migration, and high levels of unemployment, particularly among the youth where unemployment rates are the highest in the world at 24-29% in males, and 37-44% in females. Water scarcity in MENA is highest in the world, resulting in reduced GDP and land degradation. Desertification continues to intensify- approximately, 48% of the land in Mashreq countries is degraded. Drivers of these pressures are varied and range from unchecked population growth and urbanization, to demographic bulges and stagnant job markets; limited access to new skills and education; lack of empowerment of women; and the unsustainable exploitation of natural resources. Rural poverty remains a significant challenge in the region, as many economies are agrarian-based and facing increased environmental stresses and pressures on water and land. All this, in addition to the unprecedented rate of climate change means that the region will become hotter and drier with more extreme droughts and floods, putting further pressure on natural resources, and potentially driving people towards greater poverty and social unrest (World Bank, 2012).

The MENA Initiative to Transform Rural Futures focuses on restoring social and economic stability in the region through the implementation of climate-resilient agricultural systems. With a focus on medium-sized towns where potential exists for creating agri-businesses that support and enhance agricultural value chains, this will contribute to achieving equitable and inclusive growth for the rural poor and marginalized. To achieve this will require the combined efforts of diverse partners. Agriculture will be the focus of this initiative, as a source of productivity and economic sustainability and growth, supporting increased employment opportunities for women and youth and capacity-building to ensure stable rural futures. This 10-year Initiative will focus on four key components:

1. **Agro-ecological productivity and sustainability** impacting food security, nutrition and health, and sustainable resource use. There will be a scaling-up of proven agricultural technologies research based solutions that include on-farm water-saving and promotion of solar power to achieve efficiency gains within the context of the water-food-energy nexus. Piloting of new technologies for solid and liquid waste re-use and adoption of solar and wind energy as part of an overarching approach of diversifying livelihoods and incomes that go beyond traditional agricultural production;
2. **Economic sustainability and growth** through value addition and greater end-product differentiation; value chain infrastructure cold chains, warehousing and efficient input/output transactions; equitable marketing; and economic growth opportunities that will stem the rural exodus to cities;
3. **Youth, gender and social change** achieved by doubling the employment for women and youth via gender and youth mainstreaming with a focus on empowerment and equity issues;
4. **Enabling environment** for rural social entrepreneurship and public awareness focused on adaptation and mitigation into extensive rural areas to further build resilience to climate change impacts. This will address rural development policies, investments, micro-finance, access to land and resources, human and financial capacities, participatory decision-making, market access and returns, socio-professional and organizational capacities.

The types of changes expected will improve agricultural production and productivity contributing to economic growth and stability, and help to drive new skills' development and job creation. The success of this component will be contingent on the cascade effect of improved training, innovation systems, business and entrepreneurial capacities. This places equal emphasis on the enabling environment fostering success on-the-ground and ensuring value chain addition and enterprise development. The envisioned focus value chains, include: durum wheat, raise-bed agriculture package; livestock and livestock products and use of solar energy for milk cooling.

### **Operationalizing the MENA Initiative**

To mobilize buy-in and ownership by partners, a consultation and foundation meeting was held in Montpellier (France) and hosted by Agropolis on 11-12 March 2016 and attended by ICARDA, NARS (INRA-Morocco and LARI-Lebanon), CRP-Dryland Systems, and civil society (the South-North Mediterranean Foundation). The participants confirmed the critical and timely need for the MENA Initiative and contributed to its focus and approach. Targeted countries have been consulted and formal letters sent to Their Excellences the Ministers of Agriculture. The early draft of the proposal has been shared with a number of donors for their awareness and comments.

In addition to the above, the MENA Initiative was presented at the 11<sup>th</sup> meeting of the Ministers of Agriculture of CIHEAM's member countries, held in Tirana, Albania on 22 September 2016 for awareness and support.

The MENA initiative was introduced by ICARDA and its partners in a side event at COP22, held in Marrakech on 17 November 2016. A discussion between stakeholders and panelists, represented by IRESA-Tunisia, INRA- Morocco, IFAD, FAO, CIRAD, UMA and ICARDA, mobilized strong endorsement and support for the MENA Initiative. This event provided important feedback to further refine the contents and approach of the MENA initiative and also served to identify new important partners.

The Initiative will be coordinated by ICARDA and will tap into ICARDA's successful partnerships in the MENA region since 1977. The Initiative will operate across the four Components over a staged 10-year duration comprising an inception phase and three interrelated phases of implementation. While it is anticipated that the Initiative will expand to more countries with time, initially, each of the six designated MENA countries for this Initiative (Egypt, Jordan, Lebanon, Morocco, Syria and Tunisia), approximately \$10 million, as an average, per country will be allocated per year, resulting in \$60 million yearly budget, and \$600 million over the Initiative lifetime. The exact budget for each country will be specified during the Inception Phase to reflect the magnitude of the problem in-country, the size of population, the state of development as well as the state of stability (conflict versus stable countries). The anticipated phases of the project include:

- **Inception Phase – up to 1 year:** Identify and strengthen partnerships; roles and responsibilities decided; donor support solicited; program of work and budget defined; and monitoring and evaluation mechanisms designed. Country stakeholders from the concerned ministries identified (Agriculture, Water, Rural Development, Economy, Planning, Youth and other concerned line ministries); research institutions, the private sector, NGOs, civil society, rural community groups and others will identify how the MENA Initiative complements on-going efforts and national programs i.e. Morocco: Green Morocco Plan; Lebanon's Ministry of Agriculture Strategy 2015-2019; The Sustainable Development Strategy of Egypt (Egypt Vision 2030) and its Agricultural Strategy 2030; Jordan's 2025 Plan; Tunisia's 5-Year Development Plan (2016-2020) and in the future rehabilitation efforts of the Syrian agricultural sector to determine their efforts and work through these initiatives. (\$10 million, including initiation of Phase 1)
- **Phase 1 – up to 3 years:** Integrate and implement proven and tested packages of work to Initiatives countries and scale across – 30% of funds (\$180 million)
- **Phase 2 – 3-5 years:** Further develop the pipeline of work and integrate technical packages and innovations for dissemination and scaling. Phase 2 will include a strong focus on value chain development – 30% of funds (\$180 million)

- **Phase 3 – 5-10 years:** Transformation process, supporting the development of an enabling policy environment institutionally, nationally and regionally – *40% of funds (\$240 million)*

### Projected Impact

The projected impact of this work sit across social and economic strengthening and capacity building. Key impacts include:

- Impact 1 Increased agricultural productivity and sustainability: value chains developed and extended using existing research results, while incorporating new innovations for commercial opportunities; and systems-based cross-disciplinary action, including governance arrangements for managing complex multi-actor systems
- Impact 2 Improved economic growth and sustainability: income generation, enterprise development and employment opportunities; investments in infrastructure in rural areas to improve livelihoods and attract further investment
- Impact 3 Increased women and youth employment: capacity development to enable access to markets and jobs; partnership development to drive equal opportunities and access to resources and land; supporting education systems to meet local demands; and international recognition of youth as agents of change
- Impact 4 Enhanced human capacities and enabling environment: multi-stakeholder national, regional and international partnerships; education and capacity development for researchers, farmers, women's association, civil society and higher education; policy analysis and advocacy in rural development and business; and the use of ICT, social media and M&E systems to develop, modernize and contribute to rural development via processing, distributing and trading driving job creation

Through the scaling up of proven technological packages and development of strong value chains, current projections anticipate over 1.5 million jobs being created through the MENA Initiative and across the region. An example of this, the effects of large-scale raised bed adoption in Egypt provides an indication of projected impact. Currently, the Egyptian government is targeting 700,000 ha wheat cultivated using raised bed (RB) technology by 2020 – which is 60% of the current wheat area. Projected large-scale implementation of RB in Egypt anticipates a 30% reduction in water use; 25% increase in yields; 50% reduction in seeding rate; and a 72% increase in water use efficiency. As a result of this, it is anticipated that wheat production in Egypt will increase from 8 million tons in 2017 to more than 14 million tons in 2025. As a further economic impact, local wheat production could result in reduced imports from 50% to 20% in the same timeframe, reducing total wheat import cost amount by US\$1.5 billion. More importantly, however, the net benefits associated with the raised-bed package is 40% higher than those using conventional farming practices. As a result, increased farming income in Egypt could benefit 4.2 million Egyptians by 2023.

This example provides the potential of one country across one value chain, and the evidence for increased partnership and investment in this work is significant. As baseline projections are developed across the proposed value chains for the MENA Initiative, the potential beneficiaries increase and the opportunity for significant and longer-lasting change is greater.

### Implementation Arrangements and Partnerships

The implementation of this initiative involves a wide range of partners along the value-chains of targeted work groups, including farming communities, local and national authorities, national agricultural research and services delivery systems, the private sector, NGOs, development organizations, donor community, **CIHEAM, CIRAD, GFAR, AARINENA, IFPRI, CIMMYT, IWMI** and other partners. It is through the strong and relevant partnerships that this work will be achieved.

ICARDA has the founding mandate to promote agricultural development in the non-tropical dry areas of developing countries – a mandate that was as relevant in 1977 as it is today. The organization's work focuses on research-for-development, ensuring that those that the organization works with most closely, resource-poor farmers, increase their food security and productivity in a changing climate.



With offices throughout the MENA Region and its headquarters in Lebanon, ICARDA is the best-placed research-for-development organization with the right partners and stakeholders to coordinate the implementation of the MENA Initiative.

From the position of long history in research-for-development, partnership and experience in the MENA Region, ICARDA is ideally suited to provide overall management for this Initiative. While ICARDA will take the lead in Component 1, the remaining Components will be led by an organization that is most suited to help drive anticipated outcomes. While exploratory meetings with potential Component Lead Organizations are currently underway, decision-making on these organizations will take place during the project inception phase.

The MENA Initiative will bring together partners that will support the unique needs of the region and its inhabitants, and support the R4D continuum from discovery, proof of concept, piloting and scaling. In addition to the people in the rural communities in which the work will take place, proposed partners and platforms for this work include:

- NARS and line ministries in Egypt, Jordan, Lebanon, Morocco, Syria and Tunisia
- UN Organizations: FAO, WFP, UN Women, IFAD, ILO
- CGIAR System Centers: ICARDA, CIMMYT, IFPRI, ILRI, IWMI
- NGOs, humanitarian aid and development agencies: CARE International, The Development Fund (Norway), World Vision International
- Research centers and platforms: FSNMD, AARINENA, CIHEAM, CIRAD, GFAR, Agropolis, European Commission, universities and advanced research institutes (ARIs); public and private research and extension systems; civil society (the South-North Mediterranean Foundation)
- Public-private partnerships and other actors involved in value chains

### **Funding Mechanisms**

The funding for the MENA Initiative is envisioned as a three phases-part plan. In the first instance, it is anticipated that the Inception Phase, Phase 1 and part of Phase 2 will be supported by bilateral grants from public and private sector funding sources. Following this, Phase 2 and beyond will be supported by a mix of funding from across grants, bilateral funds, and loans from international development banks to both encourage country buy-in and long-term country ownership of the MENA Initiative.

### **Next Steps**

The MENA Initiative to Transform Rural Futures takes into account the social and political challenges being experienced throughout the MENA Region and compounded by climate change, challenging economic growth, youth employment and equal opportunities for men and women. This multi-sector approach based on productive agricultural systems will both help drive job creation and education at an individual level, while supporting economic growth and stability as the region recovers. This integrated, people-centered approach of research-for-development for better livelihood opportunities has the scope to address the issues being presented to the MENA Region and engage partners and stakeholders from across diverse disciplines from research to NGOs, development actors and private sector.

To support this equitable growth, the MENA Initiative requires the seed funds to initiate the Inception and Phase 1 stage to consolidate project partners and take the first steps to move this Initiative from inception to fruition, and to support the MENA Region as it rebuilds and strengthens in the coming years.

The estimated funding needed for the one-year Inception Phase and initiation of Phase 1 is USD \$10 million.



RESEARCH  
PROGRAM ON  
Dryland Systems

The CGIAR Research Program on Dryland Systems aims to improve the lives of 1.6 billion people and mitigate land and resource degradation in 3 billion hectares covering the world's dry areas.

Dryland Systems engages in integrated agricultural systems research to address key socioeconomic and biophysical constraints that affect food security, equitable and sustainable land and natural resource management, and the livelihoods of poor and marginalized dryland communities. The program unifies eight CGIAR Centers and uses unique partnership platforms to bind together scientific research results with the skills and capacities of national agricultural research systems (NARS), advanced research institutes (ARIs), non-governmental and civil society organizations, the private sector, and other actors to test and develop practical innovative solutions for rural dryland communities.

The program is led by the International Center for Agricultural Research in the Dry Areas (ICARDA), a member of the CGIAR Consortium. CGIAR is a global agriculture research partnership for a food secure future.

For more information, please visit

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