RESEARCH PROGRAM ON
Dryland Systems

CGIAR

27 October 2015

External Evaluation of the CGIAR Research Program on Dryland Systems

Volume 2: ANEEXES

By Douglas Merrey, Ross McLeod, and Judit Szonyi

Food security and better livelihoods

for rural dryland communities

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1 Bios of CCEE Team Members

Douglas J. Merrey

Dr Douglas Merrey has nearly 40 years of experience working and living in developing countries in Asia and Africa. He has lived and worked in India, Pakistan, Sri Lanka, Egypt, Indonesia and South Africa, and has visited many more Asian and African countries on short term assignments. For over 20 years he was employed by the International Water Management Institute (IWMI) where he held increasingly significant leadership positions. This included being the founding Director for Africa. Doug holds a Ph.D. in anthropology. From the beginning of his career he has worked in multi-disciplinary multi-cultural teams. His early field research focused on local management of irrigation schemes, but over time he has worked increasingly on national water management policies and institutional reform, and national and international river basin management. He has a substantial record of publications in international journals combined with practical advisory experience.

Working as an independent consultant since 2008, his clients have included IFAD, World Bank, IWMI, ILRI, Challenge Program on Water and Food (CPWF), the CGIAR Standing Panel on Impact Assessment (SPIA), FANRPAN, Euroconsult Mott MacDonald, and Abt Associates. His assignments have varied considerably, but included project and program evaluations (IFAD, CPWF, SPIA) and design (IFAD), an assessment of lessons learned from 40 years of land and water management interventions in Ethiopia (CPWF) and as a science coordinator on a Nile Basin research project in Ethiopia (ILRI), leader of a team advising the Kenyan government on irrigation and drainage sector institutional reform (Euroconsult), providing social science support and advice on uptake of research-based water management innovations (IWMI), providing advice to increase the effectiveness of small scale irrigation investments (IFAD), analysis and advice on governance of a new African agricultural water management network to support the Comprehensive Africa Agricultural Development Program (World Bank), and technical inputs to proposals (Abt). He recently carried out an evaluation for SPIA of impact assessments carried out by CGIAR centres on their research on irrigation and water management.

Ross S. McLeod

Dr Ross McLeod is an economist and financial analyst with 20 years' experience designing, implementing and evaluating research and development programs across 30 countries in Africa, Asia and the Australia-Pacific. He has been responsible for the management of, and has participated in, numerous projects. Examples include preparation of 8 loans and grant projects for the mobilization of $300+ million in development assistance across Asia over last 8 years and evaluation of 150+ agriculture, heath and food security projects for Australian rural development corporations, AusAID, FAO, ILRI and the Australian Centre for International Agricultural Research. He holds a PhD in the economic evaluation of R&D.

Judit Szonyi

Judit Szonyi is an Economist and Evaluation Consultant for international development organizations based in New York City. She holds an M.Sc. in Environmental Economics and an M.A. Economics & Business Administration with a specialization in Environmental Business Management. She has 15 years of experience in research for international development and program and impact evaluation, including extended periods of work with CGIAR centres (CIMMYT, ICARDA), FAO and other international organizations.

Judit's research focuses on providing decision support information on a variety of global development issues through socio-economic modelling and impact assessment including agricultural development strategies, land use optimization, natural resource management,

extension, investment appraisal, poverty mapping, food security, climate change and alternative energy. She has solid experience on analysing data and creating large scale georeferenced datasets and scenarios for international rural development.

Judit was a key member of the External Review and Impact Assessment of one of the ICRAF (CGIAR) programs, the African Highlands Initiative (AHI). She contributed to the review of the program progress (phase III and IV) and assessment of the AHI's performance on developing methodologies for INRM and their institutionalization in partner NARS in the East and Central Africa region. She interviewed key stakeholders, designed evaluation tools and data collection instruments, and coordinated survey data collection of 400 households in 4 sites in rural Ethiopia, Uganda and Tanzania.

2 List of Persons Interviewed or Consulted

See Annex 5 of the Inception Report for persons met during the inception phase.

Date (2015)	Team Member (s)*	Person (s) Met/ Site Visited	Notes
India (Jodhpur)			
18/5-19/5	RM	R.K. Bhatt, CAZRI, Principal Scientist & Head	Innovation Platform - Jodhpur
18/5-19/5	RM	B.L. Manjunatha, CAZRI, Scientist - Extension	Innovation Platform - Jodhpur
18/5-19/5	RM	Robonagpurie, GRAVIS, Project coordinator	Innovation Platform - Jodhpur
18/5-19/5	RM	R. Singh, National Seed Company, Area manager	Innovation Platform - Jodhpur
18/5-19/5	RM	Avindash Ramdeo Rajasthan State Seed Co. Plant manager	Innovation Platform - Jodhpur
18/5-19/5	RM	P.R Rathore, Animal Husbandry Department Deputy Director	Innovation Platform - Jodhpur
18/5-19/5	RM	Shalander Kumar, ICRISAT Flagship Coordinator	
18/5-19/5	RM	Anthony Whitbread, ICRISAT	
18/5-19/5	RM	J.C.Tiwari, CAZRI Principle Scientist	Innovation Platform - Jodhpur
18/5-19/5	RM	N.R. Pamwar, CAZRI Senior Scientist Soils	Innovation Platform - Jodhpur
18/5-19/5	RM	Shali Lune Singh	Farmer visit - Govindpura
18/5-19/5	RM	Rawal Sing	Farmer visit - Govindpura
18/5-19/5	RM	Geetadevi Magaram	Farmer visit - Govindpura
18/5-19/5	RM	Samundevi Jairam	Farmer visit - Govindpura
18/5-19/5	RM	Gomti Sohanram	Farmer visit - Govindpura
18/5-19/5	RM	Gardhan Ram Umaran	Farmer visit - Govindpura
18/5-19/5	RM	Bhuraram	Farmer visit - Govindpura
18/5-19/5	RM	Nainaram	Farmer visit - Govindpura
18/5-19/5	RM	Dudaram	Farmer visit - Govindpura
18/5-19/5	RM	Dhudaram	Farmer visit - Govindpura
18/5-19/5	RM	Shiyaram	Farmer visit - Govindpura
18/5-19/5	RM	Chokharam	Farmer visit - Govindpura
18/5-19/5	RM	Hadmanram	Farmer visit - Govindpura
18/5-19/5	RM	Magaram	Farmer visit - Govindpura
18/5-19/5	RM	Gardharam	Farmer visit - Govindpura
18/5-19/5	RM	Mangilal	Farmer visit - Govindpura
18/5-19/5	RM	Gangaram	Farmer visit - Govindpura
18/5-19/5	RM	Prakesh	Farmer visit - Govindpura
18/5-19/5	RM	Omanram	Farmer visit - Govindpura
18/5-19/5	RM	Manaharlal	Farmer visit - Govindpura
18/5-19/5	RM	Kamlesh	Farmer visit - Govindpura
18/5-19/5	RM	Kaumram	Farmer visit - Govindpura
18/5-19/5	RM	Hadmanram	Farmer visit - Govindpura
18/5-19/5	RM	Motharam	Farmer visit - Govindpura
Date	**Team**	**Person (s) Met/ Site Visited**	**Notes**

(2015)	Member (s)*		
18/5-19/5	RM	Bhairaram	Farmer visit - Govindpura
18/5-19/5	RM	Jaloram	Farmer visit - Govindpura
18/5-19/5	RM	Kaisharam	Farmer visit - Govindpura
18/5-19/5	RM	Manibai	Farmer visit - Govindpura
18/5-19/5	RM	Jamma	Farmer visit - Govindpura
18/5-19/5	RM	Haruram	Farmer visit - Govindpura
27/5	DM	Martin van Ginkel, ICARDA	Had been DDG Research. Via Skype.
Ethiopia			
18/5	DM	Said Silim (ICARDA), KPC Rao (ICRISAT), & other CGIAR scientists	ILRI Campus, Addis Ababa Ethiopia presentations on ESA research
19/5	DM	National partners, Ziway, Ethiopia	Presentations on work in East Shewa Action Sites
	DM	Haleku Kebele	Met farmers, viewed work
	DM	Dodiche Kebele	Met farmers, viewed work
20/5	DM	Kedir Wako, Adamitulu Research Centre	Interviewed the Director, toured the Centre
	DM	Rural Resource Centre-tree nursery	Set up by ICRAF
21/5	DM	KPC Rao	ILRI Campus, Addis Ababa Action Site Coordinator, ICRISAT
	DM	Aynalem Haile, Zewedie Bishaw,	ICARDA scientists
	DM	Kiros Hadgu, Aweke Mulalem Gelaw (ICRAF)	Kiros is ICRAF Country Representative
22/5	DM	Said Silim (ICARDA), KPC Rao (ICRISAT)	Wrap-up meeting with the 2key people for East Shewa. Said is ICARDA country representative
Nairobi, Kenya			
25/5	DM	Polly Eriksen, ILRI	ILRI Campus for the day CRP Centre Coordinator
	DM	Assenath Kabugi, Sabina Gitau, ILRI	Program Management Officer, and Project Accountant
	DM	Jimmy Smith, ILRI	Director General
	DM	Mohamed Said, ILRI	Scientist working on Dryland Systems
	DM	Katharine Downey, ILRI	Coordinator, Technical Consortium for Building Resilience in the Horn of Africa (mapped to Drylands Systems)
	DM	Andrew Mude, ILRI	Project Leader, Index-Based Livestock Insurance (mapped in part to Dryland Systems)
	DM	Robert Nzoke, ILRI	Finance Officer
	DM	Ian Wright, ILRI	DDG-Integrated Sciences
	DM	Debbie Bossio, CIAT	Dinner meeting
26/5		Jan de Leeuw, ICRAF	ICRAF Campus for the day CRP Centre Coordinator & Chair, CCEE Oversight Committee
	DM	Fred Atieno, Bioversity	Scientist working on southern Africa Action Site
Date (2015)	**Team Member**	**Person (s) Met/ Site Visited**	**Notes**

	(s)*		
	DM	Fergus Sinclair, ICRAF	Principle Scientist; lunch meeting
	DM	Elena Figus & Alison Ng'eny-Otieno, CGIAR –IAU	Elena is Associate Director for Africa at the IAU
	DM	Tony Simmons, ICRAF	Director General (short meeting)
	Mali		
28/5	DM	CGIAR scientists; Antoine Kalinganire, ICRAF, & Sibiry Traore, ICRISAT, presented	CGIAR Campus, Samanko, Bamako Presentations on the Flagship & Mali Action Sites. Antoine is Flagship Coordinator; Sibiry is former Action Site Coordinator
Accompanied on field visits by Antoine, Sibiry, Vincent Bado [current Action Site Coordinator], Myriam Adam (CIRAD), Carla Roncoli [Emory University]. Sibiry did most of the translations			
29/5	DM	Bougouna Sagoba, Director, AMEDD & Siaka Coulibaly, Pierre Coulibaly, AMEDD	Koutiala, Mali AMEDD is the major implementing partner (an NGO)
	DM	Koutiala District Innovation Platform	Sub-set of members
	DM	Mme Daillo Yah Diakité, Director, AMASSA-Afrique Verte	A major implementing partner (an NGO)
	DM	Nampousella Community	Large open meeting with farmers
30/5	DM	Kani Community	About 20 male farmers
		Sukumba Community	About 30 male farmers involved in STARS project (mapped to the CRP)
1/6	DM	Visit to ICRAF site; met a few local farmers	Bougani District, Mali
		MoBioM [Movement Biologique Malien] group meeting	A major implementing partner (an NGO), mainly for Africa RISING (a mapped project)
2/6	DM	Dyno Keatinge, Abdou Tenkouano, AVDRC, & Antoine Kalinganire, ICRISAT	CGIAR Campus, Samanko, Bamako Dyno is DG, Abdou is regional director. AVDRC is a partner in Africa RISING
	DM	Birhanu Zamdim, ICRISAT	Project Leader for Africa RISING in West Africa
	DM	Adam Diakite, ICRAF	Socio-economist
	DM	Ramadjita Tabo, ICRISAT	Director-West and Central Africa
	DM	Ibrahima N'Diaye, Institut d'Economie Rurale [IEH]	Scientific Director (IEH is the NARES)
3/6	DM	Sibiry Traore & Vincent Bado, ICRISAT	Former & current Action Site Coordinators
	DM	Djalal Ademonia Arinloye, ICRAF	Marketing Specialist and Gender Specialist on the CRP
		Antoine Kalinganire, ICRAF	Flagship Coordinator. Wrap-up meeting
26/7	DM	Hichem Ben Salem	NAWA Flagship Coordinator (RMC Member) and Activity Leader; ICARDA Program Director, DSIPS
30/9	DM	Andrew Noble via Skype	Former Director WLE; now DDG Research at ICARDA

* DM = Douglas Merrey; RS = Ross McLeod; JS = Judit Szonyi

3 Documents Consulted

This is an updated version of Annex 2 of the Inception Report. It is not necessarily complete but is indicative of the kinds of documents consulted by the CCEE team. All urls were functional on 20 August 2015.

Document type	Examples
Dryland Systems project proposals	CGIAR Research Program 1 Dryland Cereals and Legumes Agri-Food Systems, Pre-Proposal (DRAFT) 2015 Dryland Systems Extension Proposal to CGIAR CO 2014 CRP 1.1 Dryland Systems Proposal, 2013
Annual Plan of Work and Budget (POWB)	Dryland Systems POWB June 2015 Dryland Systems POWB Jan 2015 Overarching Flagship POWB 2015 Dryland Systems POWB 2014
Annual plan and budget (POWB) by Flagships	West African Sahel and Dry Savannahs Flagship POWB 2015 North Africa and West Asia Flagship POWB 2015 East and Southern Africa Flagship POWB 2015 Central Asia Flagship POWB 2015 South Asia Flagship POWB 2015
Annual Reports	Dryland Systems Annual Report 2014: Pathways to Lasting Impact for Rural Dryland Communities in the Developing World Dryland Systems Annual Report 2013 Dryland Systems Inception Phase Report
Performance Monitoring Reports (PMR)	2014 Annual Performance Monitoring Report West African Sahel and Dry Savannahs Flagship 2014 PMR North Africa and West Asia Flagship 2014 PMR East and Southern Africa Flagship 2014 PMR Central Asia Flagship 2014 PMR South Asia Flagship 2014 PMR
Governance and Management	Dryland Systems Governance and Management Structure 2015 Program Participant Agreement (Annex 2 General Terms and Conditions) Project Self Evaluation Guidelines
Dryland Systems Strategy and Policy Documents	Dryland Systems Capacity Development Strategy and Action Plan 2015-2016 Dryland Systems Gender Strategy 2014-2017 Dryland Systems Youth Strategy 2014-2017 Dryland Systems Risk Management Plan Gender Strategy, 2013
Participating centre and partner publications (examples)	Rjeibi, M.R., M. A. Darghouth, M. Rekik, B. Amor, L. Sassi, M. Gharbi. 2014. First Molecular Identification and Genetic Characterization of *Theileria lestoquardi* in Sheep of the Maghreb Region. *Transboundary and Emerging Diseases*.

Document type	Examples
	doi:10.1111/tbed.12271. Leeuwis C, Schut M, Waters-Bayer A, Mur R, Atta-Krah K and Douthwaite B. 2014. Capacity to innovate from a system CGIAR research program perspective. Penang, Malaysia: CGIAR Research Program on Aquatic Agricultural Systems. Program Brief: AAS-2014-29.
CGIAR system-level documentation	CGIAR Strategy and Results Framework 2016-2030 CGIAR Strategy and Results Framework 2011 CGIAR Annual Reports Review of CGIAR Research Programs Governance and Management 2014 CGIAR Research Program Portfolio Report for Year 2013
Workshop Reports	2nd Science and Implementation Meeting Report 2015, Hyderabad, India 1st Science and Implementation Meeting Report 2014, Amman, Jordan Dryland Systems Extension Workshop, 2014 Dryland Systems Launch Workshop, Amman, Jordan, 2013 Communication and Knowledge Sharing Group Strategy Workshop Report, Sri Lanka, 2015 Scientific Planning Meeting of the CRP-DS for WAS-DS
Meeting minutes	4th Research Management Committee Meeting Minutes, April 2015 5th Independent Steering Committee Meeting Minutes, April 2015 CRP-DS Capacity Development Working Group Meeting Minutes, April 2015 CRP-DS Gender Working Group Meeting Minutes, April 2015
Mapped projects	Guidelines for mapping Bilateral/W3 Projects Dryland Systems Mapped Projects 2015 by ICARDA Dryland Systems Mapped Projects 2015 by ICRISAT Dryland Systems Mapped Projects2015 by ICRAF Dryland Systems Mapped Projects 2015 by ILRI Dryland Systems Mapped Projects 2015 by CIP Dryland Systems Mapped Projects 2015 by IWMI Dryland Systems Mapped Projects 2015 by CIAT Dryland Systems Mapped Projects 2015 by Bioversity
Communication & PR	Dryland Systems Branding Guidelines 2015Open Access Explained by DS CDWG
Gender	Guidelines: Integrating Gender into Biophysical Research Gender Work Plan for 2015 Value Chain Analysis with Gender Focus 2013/2014 Gender responsive research in Dryland Systems, April 2015
Dryland and System Research	New Research Approaches to improve drylands agriculture to deliver a more prosperous future 2013

Document type	Examples
	Strategies for Combating Climate Change in Drylands Agriculture 2012 Global Drylands: A UN system-wide response/UNCCD Liu J., Mooney H., Hull V., Davis S.J., Gaskell J., Hertel T., Lubchenco J., Seto K.C., Gleick P., Kremen C., Li S. (2015) System integration for global sustainability. *Science* 347 (6225), 1258832. DOI: 10.1126/science.1258832.
Peer reviewed journal publications of Dryland Systems (examples)	van Ginkel, M., J. Sayer, F. Sinclair, A. Aw-Hassan, D. Bossio, P. Craufurd, M. El Mourid, N. Haddad, D. Hoisington, N. Johnson, C. León Velarde, V. Mares, A. Mude, A. Nefzaoui, A. Noble, K. P. C. Rao, R. Serraj, S. Tarawali, R. Vodouhe, R. Ortiz. 2013. An integrated agro-ecosystem and livelihood systems approach for the poor and vulnerable in dry areas. *Food Security* 5: 751-767. Robinson, L.W., P.J. Ericksen, S. Chesterman, J.S. Worden. 2015. Sustainable intensification in drylands: What *resilience* and *vulnerability* can tell us. *Agricultural Systems* 135: 133–140.
Other scientific publications	Pretty, J., C. Toulmin, S. Williams. 2011. Sustainable intensification in African agriculture, *International Journal of Agricultural Sustainability* 9 (1):5-24.
Prior assessment and audit of the program	Task Force Report to the CGIAR Fund Council, Drylands and Mission Critical Research Areas for the CGIAR 2015 Consortium Office Internal Audit of CRP 1.1 Dryland Systems, 2015
CRP Management Responses	Responses to Task Force on Mission Critical Research Areas for Drylands 2015
Newsletters	Issue 1 May 2013 Issue 2 July 2013 Issue 3 January 2014
CCEE	CRP Commissioned External Evaluation for CRP Dryland Systems, Invitation for Proposals CRP Commissioned External Evaluation of Dryland Systems, INCEPTION REPORT 2015 CRP Commissioned External Evaluation of Dryland Systems, INTERIM REPORT 2015
CGIAR Evaluation Reports	CRP Evaluation of Wheat CRP Evaluation of Policies, Institutes, and Markets (PIM) CRP Evaluation of Maize CRP Evaluation of Aquatic Agricultural Systems (AAS) CRP Evaluation of Forests, Trees, and Agroforestry (FTA)
IEA support documents	Guidance Notes for the Independent External Evaluation of CGIAR Research Programs (CRPs) Independent Evaluation Arrangement Guidance Notes Guidance Note 1: Guidance for Managing the Independent External Evaluation of CGIAR Research Programs (CRPs) Guidance Note 2: Guidance for CRP-Commissioned External Evaluations (CCEEs)

Document type	Examples
	Guidance Note 3: Guidance on Evaluation Terms of Reference (ToR) Guidance Note 4: Guidance on Evaluation Inception Reports Guidance Note 5: Guidance on Evaluation Final Reports Guidance Note 6: CRP Evaluation: Process for Finalization, Feedback and Decision- making Background, Roles and Responsibilities for CRP Commissioned Evaluations for A4NH, Grain Legumes, Humidtropics, Dryland Systems, and Dryland Cereals
ISPC	ISPC Commentary on the revised proposal Integrated agricultural production systems for improved food security and livelihoods in dry areas (CRP1.1 Drylands Systems Program) (Version of 28 January 2013). 28 February 2013. ISPC Commentary on the extension proposal for CRP No. 1.1 Dryland Systems (DS) for 2015-2016. 27 June 2014
Other	2014 Dryland Systems, List of Publications and Research Outputs updated in May 2015 Bain & Company (2014) Growing Prosperity: Developing Repeatable Models to Scale the Adoption of Agricultural Technologies
Websites	E.g. Dryland Systems, Partners, Stakeholders, CGIAR Consortium, IEA
Presentations	Presentations of the 2nd Science and Implementation Meeting 2015, Hyderabad, India Update on Dryland Systems. Presented by Richard Thomas at ITF-CCEE meeting in Leeds, March 2015 Open Access Presentations of Dryland Systems/SlideShare New CRP II Portfolio – Delivering on the CGIAR Strategy & Results Framework. Presentation at the Cross-CRP Meeting on M&E, Paris, France, 30th June 2015. Presented by P Ellul, Senior Science Officer, CGIAR Consortium Office.

4 Itinerary of Field Visits

CCEE visit to Action Sites in Ethiopia: Program for Douglas Merrey

Day	Time (Hrs	Activity	Responsible
17 May 2015	0715	Airport pickup on arrival by flight ET 501 and transfer to hotel	Said Silim/Martha
18 may 2015	0900-1300 Hrs	Briefing by participating CG institutions Overview of the action site and ICRISAT activities by K.P.C. Rao ICARDA activities in livestock by Aynalem Haile ICARDA activities in crops/cropping systems by Zewdie Bishaw ICRAF activities by Kiros Hadgu General discussion	K.P.C. Rao
18 May 2015	1500 Hrs	Depart to Ziway and overnight stay	????
19 May 2015	0800 - 1200 Hrs	Visit farmer fields	K.P.C. Rao
19 May 2015	1400 – 1700 hrs	Interactions with partners and stakeholders	K.P.C. Rao and S. Silim
20 May 2015	0800-1200 hrs	Visits to partner institutions (Adamitullu research station/office of IDE/BoA)	K.P.C. Rao
20 May 2015	1300 – 1700 hrs	Return to Addis	????
21 May 2015	0900-1200 hrs	Follow up discussions with participating CG institutions	K.P.C. Rao
21 May 2015 onwards		As required	
24 may 2015	1220	Depart to Nairobi by ET304	Said Silim/Martha

CCEE Visit to Action Sites in Mali (WA&DS – WBS Action Transect): Program for Douglas Merrey

Date	Time	What	Where	Who
WED27MAY	1200-1300	Transfer of Dr. Doug Merrey from KQ512	Airport to Hotel Salam	Nia Lansiry to organize
	1500-1800	Preparatory meeting with Dr. Doug Merrey	Hotel Salam	Antoine Vincent Sibiry
THU28MAY	0800-1200	Meeting with DS WBS partners: • Welcome notes (Tabo) • Overview of DS in WAS&DS Flagship • WBS Transect (review of activities, partnerships in WBS)	ICRISAT Conference Room, Samanko	Tabo Ramadjita (Chair) Antoine Kalinganire Sibiry Traore
	1300-	Travel to field sites 1	Bamako to	Nia Lansiry for logistics

	1700		Koutiala	
FRI29MAY	0800-1000	Meeting with partners (1): • AMEDD – Association Malienne d'Eveil au Developpement Durable	Koutiala	Vincent / Sibiry / Bougouna
	1000-1200	Meeting with partners (2): • Koutiala Innovation Platform	Koutiala	Bougouna
	1400-1800	Meeting with partners (3): • Exchange with farmer organizations involved in DS and related bilateral projects (crop-livestock integration)	Nampossela	Bougouna / Myriam
SAT30MAY	0800-1000	Meeting with partners (4): • Exchange with producers involved in Dryland Systems work (contour ridge tillage)	Kani	Bougouna
	1000-1200	Meeting with partners (5): • Exchange with communities involved in land tenure & imagery support work (STARS)	Sukumba	Bougouna / Sibiry
SUN31MAY		Free		
MON01JUN	0900-1100	Meeting with partners (6): • MOBIOM	Bougouni	Bougouna / Oumar Samake / Mary Ollenburger
	1300-1500	Meeting with partners (7): Exchange with communities involved in Africa RISING work (crop-livestock integration)	Bougouni & vicinity	Mary
	1500	Travel back to Bamako		
TUE02JUN	0800-	Visit Samanko	Samanko/Bamako	Vincent/Antoine

	1200 1400-1700	Research Station (ICRISAT, ICRAF, AVRDC & ICRAF) Partners meetings (IER, Ministry of Agriculture)		Tabo/Antoine
WED03JUN	0800-1200	Debriefing	Samanko	Tabo/Vincent/Antoine
	1400-1800	Meetings with scientists	Samanko	Doug/Antoine
	1900-2000	Transfer of Dr. Doug Merrey to AF3873	Hotel Salam to Airport	Lansiry

CCEE visit to Jodphur Action Sites in India: Program for Ross McLeod

Day	Time (Hrs	Activity	Responsible
16 May 2015		Sydney-Delhi	
17 May 2015	Flight 9W 2553 H	Delhi- Jodphur, Meeting afternoon ICRISAT scientists	Shalander,Kumar
18 May 2015	Day	Attend Jodphur Innovation Platform	Shalander,Kumar
19 May 2015	Day	Action sites and farmer visits - Govindpura	Shalander,Kumar
20 May 2015	Flight 9W 2552	Jodphur-Delhi-Dubai-Sydney	

5 Evaluation Matrix

Evaluation Issues and Questions	Data Collection and Analysis
Relevance	
Coherence 1. Some reviews have suggested that Dryland Systems previously did not take a clear, explicit systems approach. The TF is helping move the program to be a truly systems-program; and the Dryland Systems management has taken other steps to strengthen the systems paradigm. Assess the effectiveness and outcome so far. 2. To what extent is the new (i.e. systems) approach better suited than other research approaches to meet the challenges faced by DS stakeholders? 3. Is there a need for a sharper definition of the DS domain? Is the definition in terms of Agricultural Livelihood Systems (ALS) appropriate? Should this CRP include irrigated systems, or focus on areas where management of limited amounts of rainwater is critical? Or on interactions—irrigated and non-irrigated areas? Should it include more attention to links to urban areas, diversification into non-agricultural livelihoods complementing agricultural-pastoralism? 4. Given the re-orientation to a systems model, are the current regions and field sites the most appropriate? Given resource limits, should the CRP focus on a more limited set of regions-sites and concentrate sufficient resources to demonstrate progress—i.e. make a difference? 5. Is the Dryland Systems program strategically coherent and consistent with the main goals and System Level Outcomes presented in the CGIAR's SRF? 6. Is there a rationale for, and coherence between, CRP Flagship Projects? 7. Is W1&2 financing being optimally aligned with Windows 3 and Bilateral sources to maximize impact? 8. Are bilateral and W3 projects mapped to the CRP based on best strategic fit? How could mapping be improved? **Comparative Advantage** 1. What is the comparative advantage of the CRP in terms of the CGIAR's mandate of delivering	Semi-structured interviews, case studies (field visits), survey and document review Desk reviews of the CGIAR's Strategy and Results Framework (SRF); the original and final approved Extension Proposal; inception report; POWBs 2014, 2015; Annual Reports; TF outputs Analysis of sample projects In-depth case studies (field visits) Participation in Science & Implementation (S&IM) Workshop, Research Management Committee (RMC), & Independent Steering Committee (ISC) meetings in April 2015 ISPC/CO reviews of EP; TF ToR and products; CGIAR Research Portfolio Review 2013;

Evaluation Issues and Questions	Data Collection and Analysis
international public goods; other international initiatives and research efforts, including the private sector; and partner country research institutions or development agencies?	Interviews with CGIAR scientists and management and with Partners
2. Do scientists participating in DS understand systems versus component-disciplinary research?	
3. Do the Centers and partners have the right expertise to do systems-oriented research? This would include empirical systems research comparing dryland systems across countries and continents, strong bio-physical-social-economic modeling, participatory research methodologies ["co-production of knowledge"], institutional and policy analysis; gender analysis; communication-knowledge sharing. (These may have been weakened as a result of budget cuts.) The CCEE will also consider whether there is a reasonable balance between empirical (inductive) and deductive (e.g. modeling) approaches.	Analysis of EP, S&IM reports (2014, 2015), case studies Interviews
4. Does the CRP play an appropriate role in the discovery, piloting and scaling-out of research compared to other stakeholders?	
5. Does the Dryland Systems program engage with appropriate partners, given their roles in implementation and achieving the objectives of the program?	Small group exercise at 2nd SI&IM, April 2015
6. What efforts are being made to avoid research duplication between Dryland Systems, other CRPs/centers, NARS and other research institutions more generally? What efforts are being made to avoid this problem or achieve collaborative synergies?	Analysis of proposal, EP, S&IM reports, Risk document
Program design	Project portfolio analysis
1. How have Dryland Systems research sites and projects been selected? Was the evidence base adequate? What could be improved?	
2. Were sites selected based on clear hypotheses as an organizing principle to prioritize the research and results agenda and clear criteria for choice of target areas	
3. Have details on the underpinning science and agronomic, genetic, and farming system approaches to be evaluated been documented across implementation?	
4. Has the program been designed to target the most relevant Intermediate Development Outcomes (IDOs)? How did the inception phase help in this endeavor?	
5. Is there are a logical link between activities, outputs and outcomes across impact pathways? Have assumptions and constraints been taken into consideration, through the development	

Evaluation Issues and Questions	Data Collection and Analysis
of risk mitigation and other management strategies? 6. What process has been followed to prioritize Dryland Systems research activities? Has this been appropriate, given the resources provided to the inception phase and complexity of the program?	
Quality of Science	
7. Do the research design, problem-setting, and choice of approaches reflect high quality scientific thinking, state-of the-art knowledge and novelty in all areas of research? 8. Does the quality of output reflect value for money? 9. Is it evident that the program builds on the latest scientific thinking and research results? 10. Are the internal processes and conditions, including research staff and leadership quality, adequate for quality assurance? Is the Dryland Systems scientific leadership sufficient strong? Or is the CRP overly dependent on partner Center quality control processes (and if so are they adequate)? 11. Are the research outputs, such as publications, of high quality? Are there examples of good science? 12. Is the Dryland Systems program collaborating effectively with leading institutions? 13. Are salaries and conditions sufficient to attract high quality staff? Is the time allocation of scientists at partner Centers overly fragmented, which may reduce scientific quality? How much time do staff members spend on Dryland Systems W1&2 funded activities versus W3 and bilateral-funded activities, and what are the synergies of any between activities funded from these sources?	Analysis of proposal, EP Literature analysis In-depth project analysis Researcher survey Scientist interviews ICARDA employment terms and conditions, salary structure vis-à-vis other CGIAR partners
Effectiveness	
1. To what extent have planned outputs and outcomes been achieved or are likely to be achieved? 2. Where, and where not, has the Dryland Systems program made progress toward outputs, and along the impact pathway toward outcomes? 3. Is the monitoring system used effectively for adjusting the program on the basis of lessons learned? 4. Have adequate constraint analyses and lessons from ex post studies informed program	Review of POWBs; Annual Reports Researcher survey, interviews and case studies Analysis of M&E system data Review of impact pathways and

Evaluation Issues and Questions	Data Collection and Analysis
design for enhancing the likelihood of impact? 5. Is the CRP adequately addressing enabling factors for scaling up outcomes? 6. Are processes clearly defined and quality reviews conducted to improve effectiveness?	theory of change SWOT analysis
Impacts and Likely Sustainability	
1. Have a logical framework and impact pathways been developed to explicitly link outputs to outcomes and impacts aligned with the CGIAR Strategy and Research Framework 2. Is the above based on a sound theory of change? 3. What is the communication strategy of Dryland Systems, how well is it being implemented, and how effective is it? 4. Who are the main users of Dryland Systems outputs? Is there evidence of demand for Dryland Systems outputs? Is there evidence of real value added? 5. Is the balance among quality of science, development outcomes and capacity development appropriate? 6. Is there potential for substantial outcomes and impacts in the next two years of Dryland Systems? Is there such potential over the next 5 or so years if the Dryland Systems continues? 7. Scaling out and up issue and plans to link effectively with development programs to achieve success—are there any examples? 8. Have there been sufficient efforts to document outcomes and impact from past research, with reasonable coverage over all research areas? 9. Have adequate constraint analyses and lessons from ex post studies informed program design for enhancing the likelihood of impact? 10. To what extent are positive outcomes demonstrated at pilot or small-scale level likely to be sustained and out-scalable? 11. What are the prospects for sustaining financing, for example, for long-term research programs and key partnerships? 12. To what extent have benefits from past research been—or to what extent are they likely to be— sustained?	Document review Interviews Case studies Survey of partners, beneficiary assessment Analysis of M&E data Contribution analysis Outcome mapping Most significant change stories

Evaluation Issues and Questions	Data Collection and Analysis
Gender and Youth	
1. Have gender and youth issues been adequately considered in research design in terms of relevance to and effect on women/youth? 2. Has gender been adequately considered in the impact pathway analysis, in terms of the differential roles of women and men along the impact pathways, generating equitable benefits for both women and men and enhancing the overall likelihood enhancing the livelihoods of women? 3. Does research on gender and youth have the potential to make a significant difference (or is it largely addressing marginal issues)? 4. How gender and youth research being embedded in on-going processes and scale-up and out?	Analysis of POWBs; Annual Reports; Gender Strategy; Gender workshop report; Youth Strategy 2015 S&IM small group exercise Interviews Case studies
Capacity Strengthening	
1. What types of capacity needs and gap analysis have been undertaken to design capacity development strategy? 2. How is capacity development being tailored to partner and country needs? 3. How is capacity development targeting women and youth? 4. How is sustainability being considered in the design of capacity development programming?	Analysis of proposal, POWBs, Annual Reports, EP, Capacity Development (CD) Strategy. Survey of partners
Partnerships	
1. Examine the set of current partners. Are there too many CGIAR centers? Should the number be reduced to 2-3 key CGIAR partners who have specific roles and can subcontract work to other CGIAR centers? What is the adequacy of 'advanced' research institutes, NARS, and boundary partners? Do Dryland Systems science leaders have sufficient authority to develop and implement a coherent research agenda? 2. How strong and effective is the collaboration among Dryland Systems partners? 3. To what extent are the partnerships relevant and cover the relevant partner groups to achieve program objectives? 4. How are partnerships chosen? Are the processes for partner selection adequate? 5. Do partners perceive there is real value added from their participation in Dryland Systems?	Analysis of CD Strategy, CD implementation and Annual Reports Case studies Survey of researchers & partners Interviews of scientists and partners

Evaluation Issues and Questions	Data Collection and Analysis
Efficiency, Governance and Management	
1. The last few years have seen a great deal of turmoil for the Lead Center as well as the Dryland Systems. These include being forced to leave the ICARDA headquarters in Aleppo and establish the staff in other places (through a decentralization process). Aside from the disruption to staff and work this has had large financial costs. Dryland Systems has had to re-submit its proposals several times, delaying the start of CRP implementation; and had to go through an Audit that has been controversial; and it has had to recruit a new Director, set up a PMU, and respond to drastic cuts in budgets (50% in late 2014, an additional 19% in early 2015). How have these events affected the performance of the Dryland Systems program and how has it responded to all of these pressures? 2. Has CRP leadership done enough to package and "sell" the program to potential financing agencies? 3. What has been the impact of apparent gaps, lack of explicit guidelines, frequent changes in guidance, etc. at CO level on this CRP? 4. Has the response by the CRP management and Lead Center to the Audit been adequate? Are there additional steps that need to be taken to strengthen CRP management? 5. To what extent do the governance and management arrangements permit and facilitate the effective participation of stakeholders? 6. How effective is Dryland Systems contract management? 7. To what extent are the lines of accountability within the program well defined, accepted, and being followed? Are there any significant gaps in programmatic accountability? 8. To what extent are the program's decision-making, reporting, and evaluation processes transparent? 9. From the Audit report on budgeting: "The IEA in the forthcoming review of CRP 1.1 should include an assessment of the scope of the deliverables of the CRP given the current and projected levels of funding." Elsewhere: "This is a clear indication that either budgets are loosely constructed or under-delivery will occur. As this aspect is not within the scope of this audit it is a subject that should be addressed in the forthcoming IEA review." Has the Dryland Systems program adjusted its deliverables in response to reductions in the budget? If so,	Organizational timeline Governance and management assessment Analysis of audit report Interviews with Dryland Systems and partner Center management Interviews with donor agencies Interviews with representatives of FC and CO Analysis of POWBs, Annual Reports, & other documents

Evaluation Issues and Questions	Data Collection and Analysis
how has it made these adjustments, based on what criteria? What is the process followed in developing budgets by Flagship and Action Site budget holders? 10. What has been the Dryland Systems PMU response to the Audit Report recommendation to do monthly reporting RMC members? 11. How effective and efficient have been the criteria and the procedures for allocating the program's resources? 12. Is the level of collaboration and coordination with other CRPs appropriate and efficient? 13. Is the monitoring and evaluation system efficient? 14. Are CRP implementation and sustainability related risks adequately identified and managed? 15. Is Intellectual property used or generated by the CRP appropriately managed?	
CGIAR Context	
The Dryland Systems proposals have been severely criticized by the FO, CO, and ISPC. The Audit Report has also been extremely critical; but the Dryland Systems response has pointed out issues reflecting shortcomings at the CGIAR level. Further, uncertainties about funding have affected the development of a longer-term research program on dryland agricultural systems. 1. What are the views of the FC and CO on the reasons why the Dryland Systems proposals have not met their expectations? How has this affected the potential for supporting a future CRP on Dryland Systems? 2. Has the Dryland Systems program had reductions in funding that are greater than those of other CRPs? If so what is the reason? 3. Agricultural systems research requires funding support over a reasonable length of time (say, 5-10 years). What are the prospects that the CGIAR will be able to attract sufficient stable funding to support a future Dryland Systems CRP? In other words, given recent negative trends in CGIAR funding, is a CRP working on dryland agricultural systems viable? 4. What has been the overall impact of the interactions with CGIAR entities as well as budget	Proposals and commentaries on them Audit Report Interviews with key representatives of the FC and CO Interviews with CRP and partner center management

Evaluation Issues and Questions	Data Collection and Analysis
cuts on the performance of the Dryland Systems? To what extent do these contextual issues as opposed to internal Dryland Systems factors explain the performance of the Dryland Systems to date?	

Source: Annex 1 of the Inception Report. This matrix has not been updated.

6 Interview Guidelines Used

A. Focus Group Guiding Questions Used for CCEE Feedback at the S&IM Workshop

Group 1: Governance and Management

What are the main a) strengths and b) weaknesses in the current governance and management of the CRP [and indeed of CRPs in general]? In the short run what changes would you like to see?

In Phase 2, what changes would you like to see in the governance and management of the CRP in order to optimize coherence, integration, efficiency, and effectiveness, while also assuring high science quality and achieving real outcomes and impacts?

Currently there are eight CGIAR centers involved in the implementation of the CRP which seems unwieldy to some. What are your views? Should the CRP be restructured to be led by fewer "core" CGIAR centers, with others contracted in as needed? Should the future CRP include non-CGIAR partners in its governance & management?

What other recommendations do you have for the future? What topics would you suggest the CCEE give highest priority to in its work?

Group 2: Research

The basic premise of the CRP is that its value addition is its integrated "systems" approach to research. How do you define "agricultural systems" research? How do you rate the extent to which Dryland Systems research meets this definition? Please provide examples.

Please also comment on whether Centers/partners have the right expertise for 'systems' research. Is there a shared understanding of "systems" research?

The Dryland Systems is currently organized in terms of geographical 'Flagship Projects'. There are suggestions to re-organize in terms of Agricultural Livelihood Systems. How should the CRP organize future research in order to maximize its quality and relevance and contribute to achieving substantial impacts?

What do you think will be the most important research products that will be produced by the Dryland Systems by the end of 2016?

Suggest criteria and if possible rank the most important ones [top 5]

If the future Dryland Systems budget is limited to half the current budget, where should the CRP focus its limited resources?

Please respond in terms of critical research issues/problems it should address; and in terms of geographical focus

Group 3: Outcomes and Impacts

Is the Dryland Systems poised to have substantial a) outcomes, and b) impacts by the end of 2016? If yes: what will be the most important ones? What will be the pathways through which these outcomes-impacts are achieved? If not: why not and what could be possible solutions?

How can the CRP achieve a reasonable balance among producing quality science, achieving developmental outcomes, and contributing to capacity development?

The future CRPs will be under great pressure to show how the research will contribute to achieving measurable and substantial outcomes and impacts. Please identify the most important

– but feasible -- potential outcomes and impact that could be achieved by 2025 in Phase 2 of Dryland Systems. Assume the CRP will be designed starting with identifiable outcomes and impacts, and working back to the research needed to achieve these.

Do you think the Dryland Systems is effectively targeting women and youth? Do you think it should put more priority and resources into this? Please give examples and reasons.

If the future Dryland Systems budget is limited to half the current budget, where should the CRP focus its limited resources?

Please respond in terms of potential outcomes and impacts; and in terms of geographical priorities

Group 4: Partners and Capacity Development

Who are the main users of Dryland Systems outputs? Is there evidence of demand for Dryland Systems outputs? Is there evidence of real value added? Please provide specific examples.

Does the Dryland Systems program engage with appropriate partners, given their roles in implementation and achieving the objectives of the program? How effective are the Dryland Systems partnerships? How could they be strengthened?

Please consider these questions in terms of a) research partners, and b) "boundary" partners – those who are expected to adopt or implement research outputs/recommendations, giving examples.

What do you consider the most important contributions of Dryland Systems to capacity development to date? Please provide specific examples.

Can you suggest ways to increase the contribution to capacity development?

The CRP has a gender & a youth strategy. Does CRP capacity building actually target women and youth adequately and take their differential needs taken into account? Does the CRP have the right partners to target women and youth effectively? Please provide examples, and suggestions for more effective targeting.

B. Interview Guidelines

1. CGIAR, NARS Scientists and Extension Officers

Name: Centre:

Position: Years in current job:

Relevance: What do you consider unique about the Dryland Systems program? In other words, what do you do that is different from what you used to do?

> [Follow-up to first question:] What is your understanding of "dryland systems research?
>
> Who are the users of the Dryland Systems outputs? Do you think there is demand for these outputs? What is the value added of the CGIAR program versus research led by NARS?
>
> Are the benefits of Dryland Systems research clear to you?
>
> Do you see your activities under Dryland Systems as being more oriented to commodities, systems research, or global resources?

Science quality: Overall, how would you rate the quality of science in Dryland Systems? [Poor--; Good -- ; Very good -- .]

How does the CRP (NARS, or your Center) go about guaranteeing the quality of science?

What do you consider the best scientific output so far? Provide at least one specific example.

What do you think will lead to or become the best scientific output within the next 2 years? Provide at least one example.

Impact & sustainability: CRPs are supposed to do research for development. How do you see this working in Dryland Systems, with examples?

How do you perceive the balance among science—impact/outcomes—capacity development and coordination in Dryland Systems? In other words do you think the balance is right, or needs some adjustment?

What is your strategy to broaden adoption of Dryland Systems outputs? Who is being targeted and how?

What do you think will be the most significant impact of Dryland Systems in the next 2 years (if any)? How will it be achieved in your view (impact pathway)? How will be sustained?

Efficiency, Effectiveness, Coherence: What do you see as the main problems or issues with regard to Dryland Systems? Do you have suggestions for solving these? What do you see as the strengths of the CRP approach?

How much input have you had into the design of Dryland Systems activities? E.g. attended meetings, providing your own plans, commenting on drafts, none at all

Please explain how you do the work planning for this CRP. Do you involve your partners or just do it to get it over with? Is priority setting adequate? Have activities been built on lessons learned in the past? How do you go about building your budget? What about contingencies?

(CGIAR staff only) In your work planning and implementation of Dryland Systems activities, do you involve the gender and capacity development focal point people? If so, how?

(CGIAR staff only) How do you link W1&2 funds to Window 3 funded activities in your work (if applicable)?

(CGIAR staff only) Are current partners appropriate?

(CGIAR staff only) How do you decide whether to attribute an activity to Dryland Systems or to some other CRP? Are the current guidelines clear?

(CGIAR staff only) Are the CRP reporting lines clear? If you work on more than one CRP, how do you go about achieving integration among them, if at all? How do you avoid double-counting?

Future: If there is a 2nd phase of Dryland Systems, what are the main elements you would like to see included?

2. Interview Guideline: Farmers, Water User Groups

Name of community/ WUG: Role of respondent(s):

Gender & Generation: Male Female Youth Mature Senior citizen

Relevance: What do you consider most useful about this research [or extension] program?

Does the research/extension address the key problems, or opportunities for your type of farming?

What role have you had in the design of the research/extension? Could this have been improved? If yes, how?

Impact & sustainability:

Have you and/or your community benefitted from this research/extension program? If so how? If not what do you think are the reasons?

What do you think will be the most significant impact of Dryland Systems in the next 2 years (if any)? How will be sustained?

Do you have suggestions for future research and/or extension programs?

3. Interview guideline: Policy maker, development agent, NGO

Name: Organization:

Role: Gender: Male Female

Relevance: Does the Dryland Systems research address priority dryland system development issues in your view? If so what issue(s)? What contribution have you made to identifying topics and designing and implementing the research? What are the prospects for scaling up and out the results of the research? What will be required to achieve this?

What are your views on "systems" research, as contrasted with "component" research?

Impact and sustainability:

Do you anticipate that the research will result in significant impacts on people? If so what will be the potential impacts over what time frame?

To what extent will youth, women (or local disadvantaged people) benefit from the research – and how exactly will they benefit?

Do you think the outcomes and impacts achieved by the research will be sustainable without continued support from the research organizations?

Source: Annex 6 of the Inception Report.

7 Survey Questionnaire

A. Partner's Survey

The CCEE team have conducted a survey for the evaluation of the Dryland Systems program's contribution to research and development results, in order to provide accountability to stakeholders and ensure learning from its interventions. Through an online survey of partners we have received feedback on experience with the Dryland Systems program supported or managed projects from all flagship regions. The results of the survey are listed and illustrated in Annex 8. The Partner's Survey received responses between June 1st and June 12th, 2015. We contacted 107 partners[1] in 5 flagships regions (NAWA: 27, WAS: 15, ESA: 14, CA: 34, and SA: 17). The overall response rate was 25%. Requests for submitting the survey were sent three times to the partners. The regional response rate varies (NAWA: 14.8%, WAS&ESA: 17.2%, CA: 20.6%, and SA: 47.0%). The survey early draft had received preliminary reviews from a number of colleagues which we would like to acknowledge: Tana Lala-Pritchard (communication), Karin Reinprecht (gender), Chandra Biradar (IT), Rosana Mula (CD), and Enrico Bonaiuti (MEL) for their feedback. The survey was designed following the guidelines of the IEA and used some questions from previous CRP evaluations (AAS, Maize, Wheat, PIM) in order to provide data across CRPs. The majority of the survey is specifically designed to target the unique issues of the CRP Dryland Systems.

The survey was translated into French and Russian [Chart on Q1 in Annex 8] by CRP-DS colleagues in order to enhance the response rate in North and West Africa and Central Asia. We would like to acknowledge the support of Hishem Ben Salem, Mohammed Karrou, Jozef Turok, Botir Dosov, Muhabbat Turdieva and Shakhodat Bobokulova for their respective contribution to the French and Russian translation of the CCEE Partners' Survey. 63% of the survey responses were received in English, 26% in Russian, and 11% in French (Q1).

The following table presents the detailed questions asked. Annex 8 contains the results for each question.

Questions	Type of questions
In which language would you like to respond to the survey (English, French, Russian)	Multiple choice
1. What is the name of your institution?	Open ended
2. What type of organization are you representing?	Multiple choice
3. What type of interaction best describes the principal way in which you have worked as a partner with the CRP Dryland Systems and its research activities?	Multiple choice
4. What is your nationality/region of origin?	Multiple choice
5. In what region are you currently based?	Multiple choice
6. What is your gender?	Multiple choice
7. In what discipline/field is your highest level of academic education?	Checkboxes
8. How many years of professional experience do you have since completing your academic education?	Multiple choice
9. For how many of these years have you interacted or worked with the CGIAR in any capacity?	Choose from a list
10. How well do you know the CGIAR Research Program on Dryland Systems (vision & mission, objectives, theory of change & impact pathway, governance & management, project portfolio, gender strategy, capacity development strategy, scientific work)?	Grid

[1] The full list of partners contacted for the survey are listed in Annex***. Responses on the name of the institute are not published for respecting anonymity of the survey respondents.

Questions	Type of questions
11. How much interaction has there been between your home institution and the following organizations that are all part of Dryland Systems (ICARDA, ICRISAT, Bioversity, CIAT, CIP, ICRAF, ILRI, IWMI)?	Grid
12. To what extent have you worked on the following aspects of Dryland Systems research projects (research prioritization, project planning, feedback to research design, co-publishing research results, outreach activities, workshops, mentoring)?	Grid
13. How would you rate the value added (or usefulness) of the scientific research activities of Dryland Systems program and partners to your organization (technologies, improved plants, tools & methods, strategies, knowledge, policy options, gender empowerment, improved scientific capacity, system research geo-informatics, data & knowledge management?	Grid
14. How would you rate the following aspects of the Dryland Systems research projects that you have worked on (…)?	Grid
15. To what extent do you, as a partner, feel that you have enhanced the relevance and effectiveness of the Dryland Systems research projects that you have worked on in the following ways (…)?	Grid
16. Please rate the performance of the Dryland Systems project teams that you have worked with in terms of the following gender related areas (…)?	Grid
17. How satisfied are you with the research results from the Dryland System program and partner organization(s) (relevance, effectiveness timeliness, delivery, scientific quality, influence on research design, and degree of innovation?	Grid
18. How are research findings brought to your institution? (communication channels)	Checkboxes
19. Please indicate the degree to which the research findings of the above institutions have influenced your organization.	Multiple choice
20. What could be done to (further) increase the relevance and usefulness of those research results for your home institution?	Checkboxes
21. Do Dryland Systems program and partners generate and sustain positive impacts in line with these objectives (…)?	Grid
22. To what extent do you think the Program has achieved or is likely to achieve its expected objectives (IDOs) (…)?	Grid
23. Please rate the performance of the Dryland Systems research projects that you have worked on in terms of the following capacity building activities (…).	Grid
24. Please rate the performance of the Dryland Systems research projects in the following areas (…).	Grid
25. In your opinion, what are the major strengths or assets of the Dryland Systems program and its research organizations?	Open ended - paragraph
26. In your opinion, what are the main weaknesses or the priority improvement areas for Dryland Systems program and its research organizations?	Open ended - paragraph
27. Are there any issues that are not covered above but are important to discuss?	Open ended - paragraph

B. Staff's Survey Questions

The CCEE team used an online survey to collect information on perceptions and experiences with the Dryland Systems program supported or managed projects from Dryland Systems Staff in all five Flagship regions. The results of the survey are provided in Annex 8. The Staff Survey received

responses between 25th June and 18th July, 2015. We contacted 144 colleagues, with a reminder from the PMO, and had a 27% response rate. Respondents are spread geographically and provide a good sample of each flagship region: WAS&DS and ESA (46%), NAWA (23%), CA (18%), and SA (10%). Three important factors have influenced the response rate: 1) due to being mid-summer, some scientists were away for holiday or business; 2) the survey overlapped with a busy time for the preparation of the proposal for the next program cycle; and 3) the survey was conducted during the month of Ramadan, which may have had an impact on some staff members' availability.

The early draft of the survey was reviewed by members of the PMU. At the request of the Intellectual Property Manager (ICARDA/Dryland Systems), Francesca Re Manning, two questions on property rights were added.

The survey was designed following the guidelines of the IEA and used some questions from previous CRP evaluations (FTA, AAS, Maize, Wheat, PIM) in order to provide data across CRPs. Most survey questions are, however, specifically designed to target the unique issues of the CRP Dryland Systems. The following table presents the detailed questions asked. Annex 8 contains the results for each question.

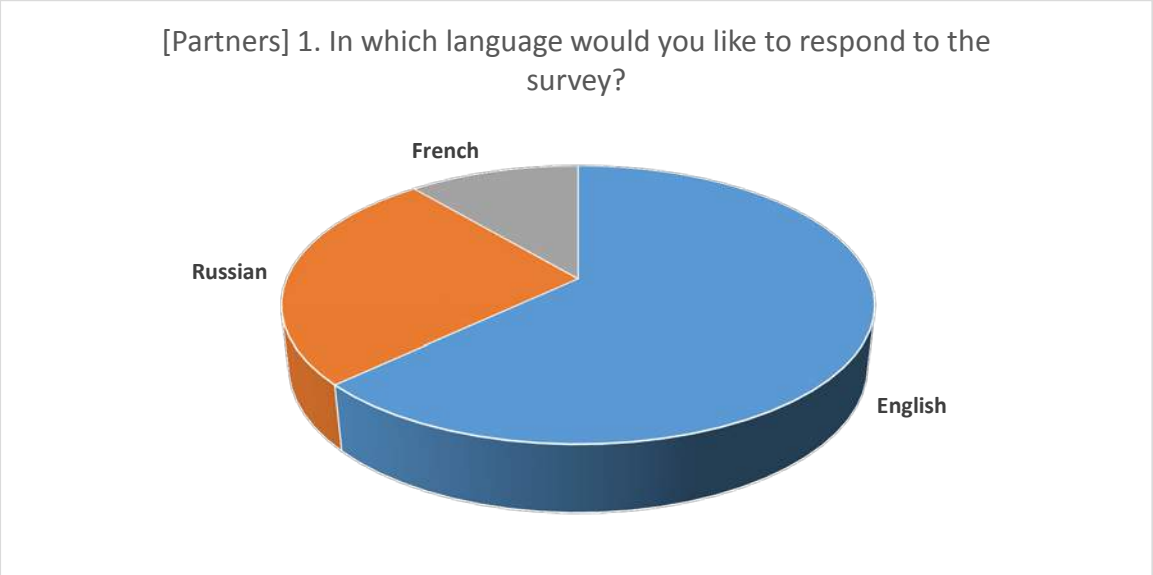
Questions	Type of questions
1. What is your CGIAR home institution?	Multiple choice
2. What is your research position?	Multiple choice
3. What is your nationality/region of origin?	Multiple choice
4. In what region are you currently based?	Multiple choice
5. What is your gender?	Multiple choice
6. What is your research area?	Checkboxes
7. How many years of professional experience do you have since completing your academic education?	Multiple choice
8. For how many of these years have you interacted or worked with the CGIAR in any capacity?	Choose from a list
9. What percentage of your time is dedicated to Dryland Systems research activity (W1&W2, W3 & bilateral, other)?	Grid
10. Other than Dryland Systems in which other CRP are you involved?	Checkboxes
11. To which Agricultural Livelihood Systems have you been contributing in 2014-15?	Grid
12. To which Flagship do you contribute?	Grid
13. How well do you know the CGIAR Research Program on Dryland Systems (vision & mission, objectives, theory of change & impact pathway, governance & management, project portfolio, gender strategy, capacity development strategy, scientific work)?	Grid
14. How would you rate the value added (or usefulness) of the scientific research activities of Dryland Systems program and partners to your organization (technologies, improved plants, tools & methods, strategies, knowledge, policy options, gender empowerment, improved scientific capacity, system research geo-informatics, data & knowledge management?	Grid
15. How would you rate the following aspects of the Dryland Systems research projects that you have worked on (…)?	Grid
16. In your view, how well are the following aspects for enhancing the effectiveness of the Dryland Systems Program managed (…)?	Grid
17. To what extent do you think the Dryland Systems has achieved or is likely to achieve its expected objectives (IDOs) (…)?	Grid
18. Do Dryland Systems program and partners generate and sustain positive impacts in line with these objectives (…)?	Grid
19. Rate the performance of the Dryland Systems research projects in the following areas (…).	Grid

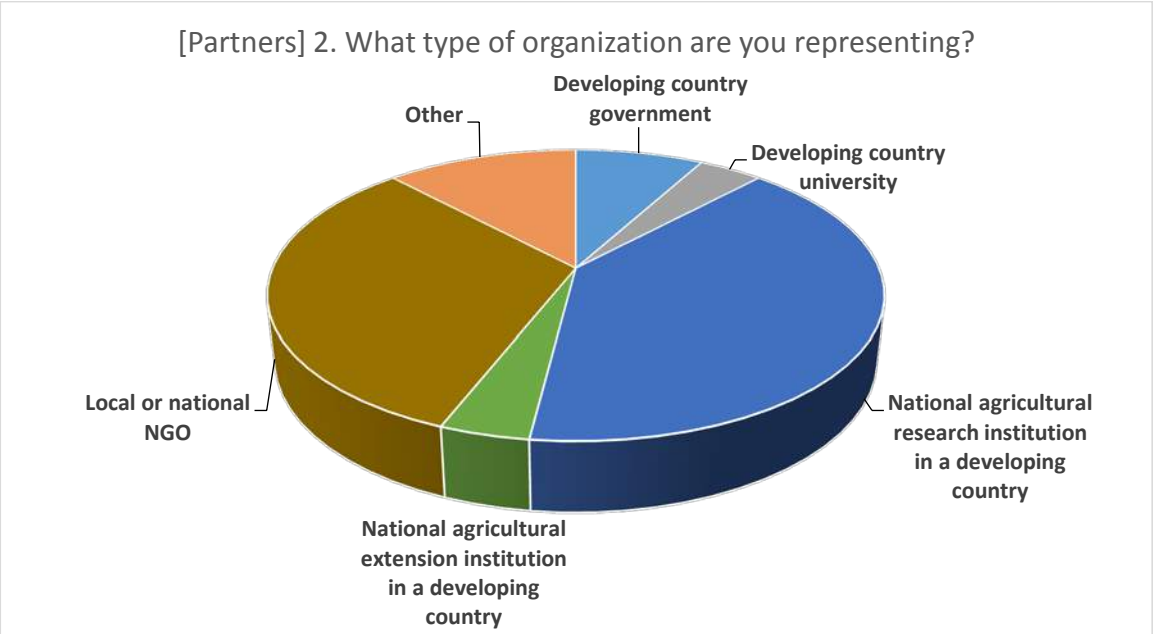
Questions	Type of questions
20. Rate the performance of the Dryland Systems project teams that you have worked with in terms of the following gender related areas (…).	Grid
21. Rate the performance of the Dryland Systems research projects that you have worked on in terms of the following capacity development activities (…).	Grid
22. How do you ensure that the results of your activities are not restricted or limited by proprietorship rights? What mechanisms do you use to guarantee that information and data is freely and easily accessible and safely stored?	Open ended - paragraph
23. Can you be certain that any technology and information that might be used from third parties at the beginning of the project does not need permission or license? If such permission/license is needed, have you obtained it and if so at what price?	Open ended - paragraph
24. Do you think there is an agreed and shared understanding of what is meant by the term “dryland systems”?	Open ended - paragraph
25. Have you read the paper by van Ginkel et al. on “An integrated agro-ecosystem and livelihood systems approach for the poor and vulnerable in dry areas”, published in the journal Food Security in 2013? If yes, how have you used the ideas in this paper in designing and implementing your research under CRP-DS	Multiple choice & Open ended paragraph
26. In your opinion, what are the major STRENGHTS or assets of the Dryland Systems program and its research organizations?	Open ended - paragraph
27. In your opinion, what are the main WEAKNESSES or the priority improvement areas for Dryland Systems program and its research organizations?	Open ended - paragraph

8 Detailed Survey Results

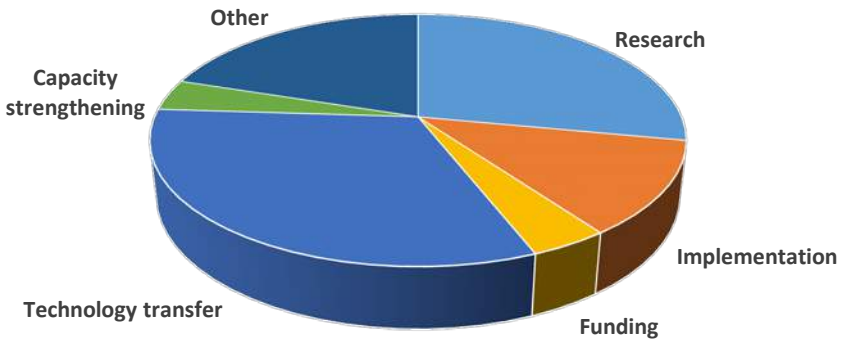
A. Partner's Survey Results

The following figures present the results for the questions asked.

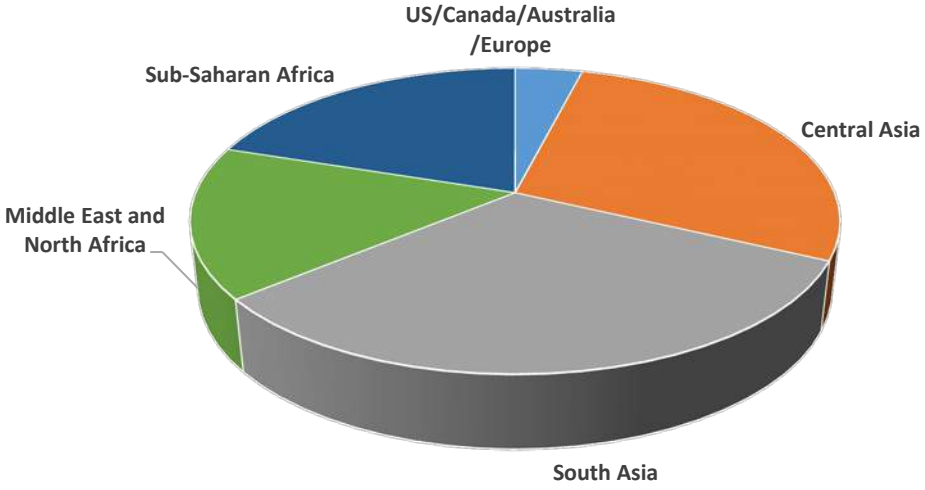




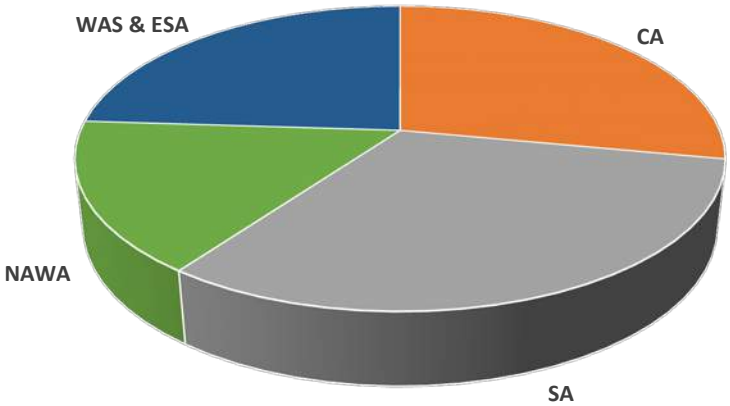
[Partners] 3. What type of interaction best describes the principal way in which you have worked as a partner with the CRP Dryland Systems and its research activities?



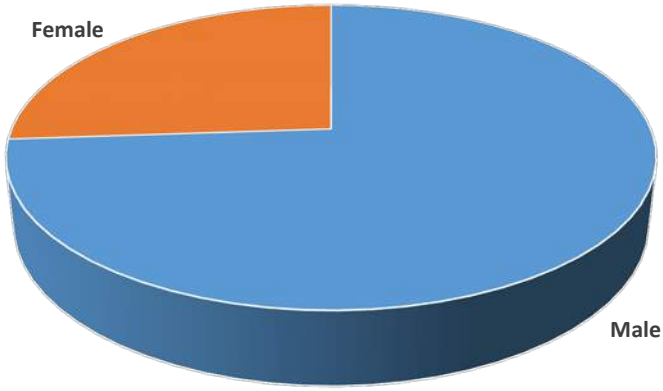
[Partners] 4. What is your nationality/region of origin?



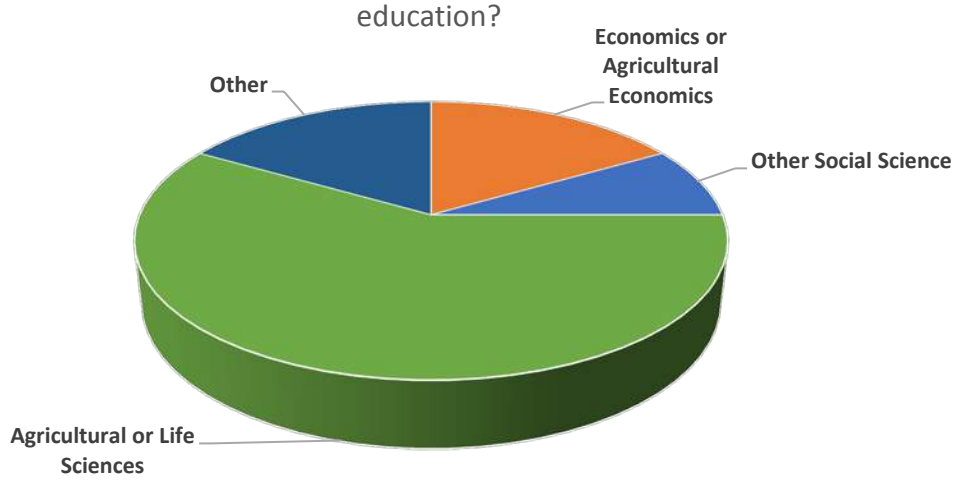
[Partners] 5. In what region are you currently based?



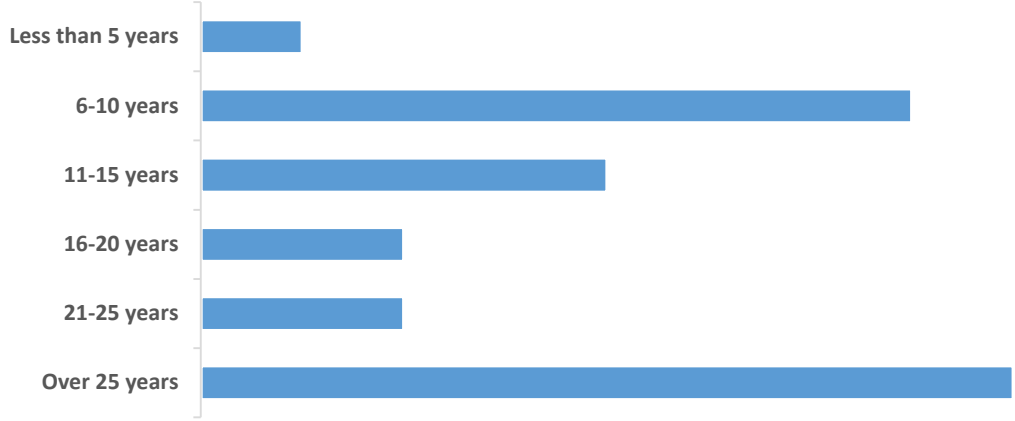
[Partners] 6. What is your gender?

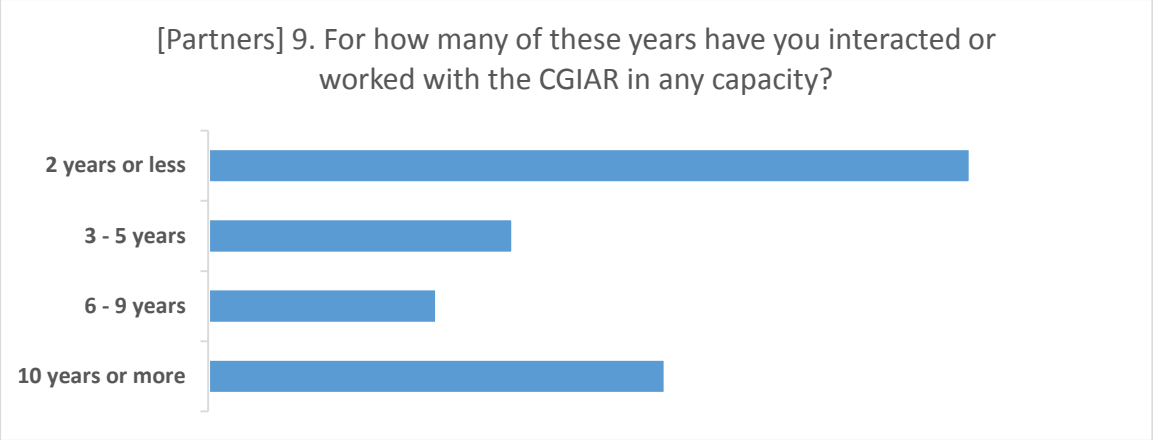


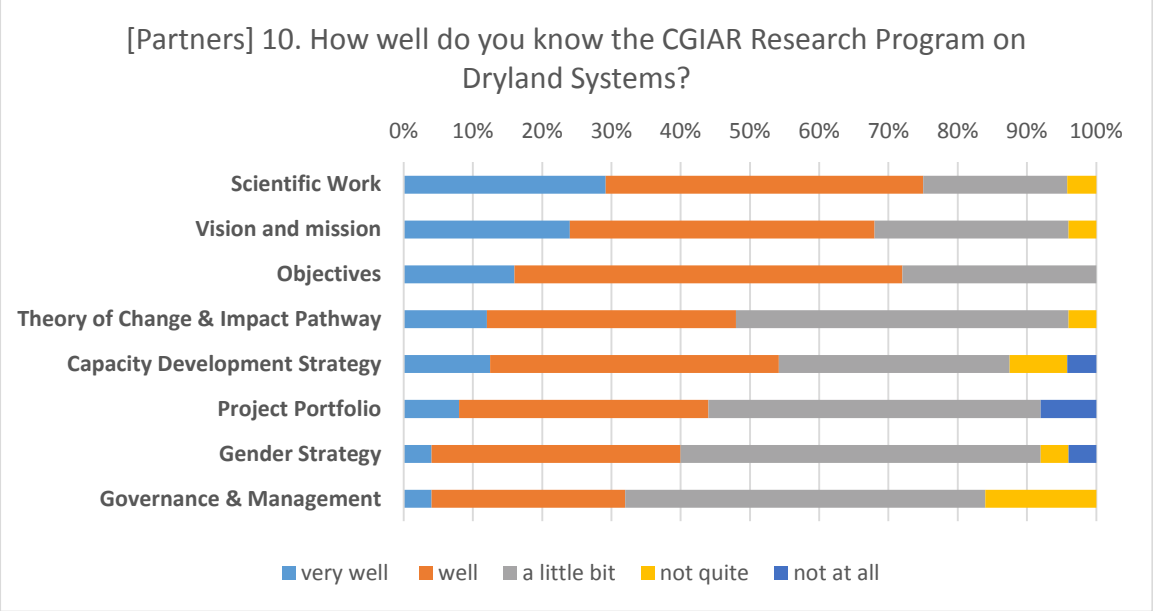
[Partners] 7. In what discipline/field is your highest level of academic education?

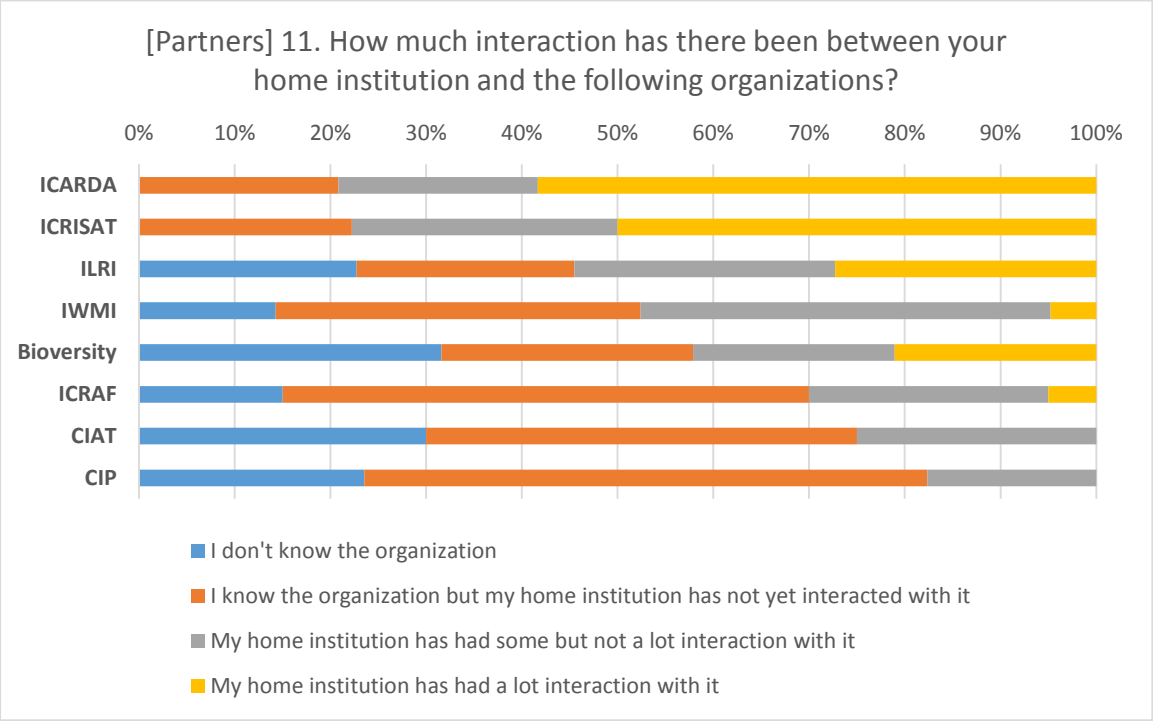


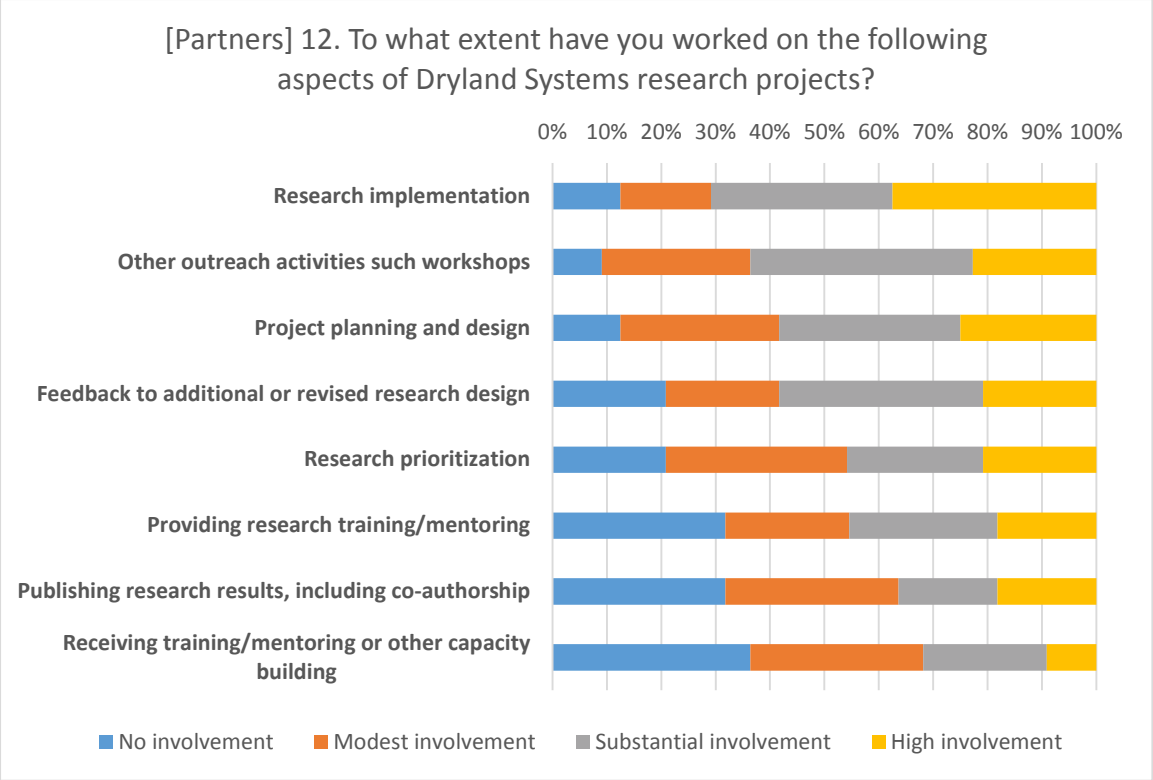
[Partners] 8. How many years of professional experience do you have since completing your academic education?

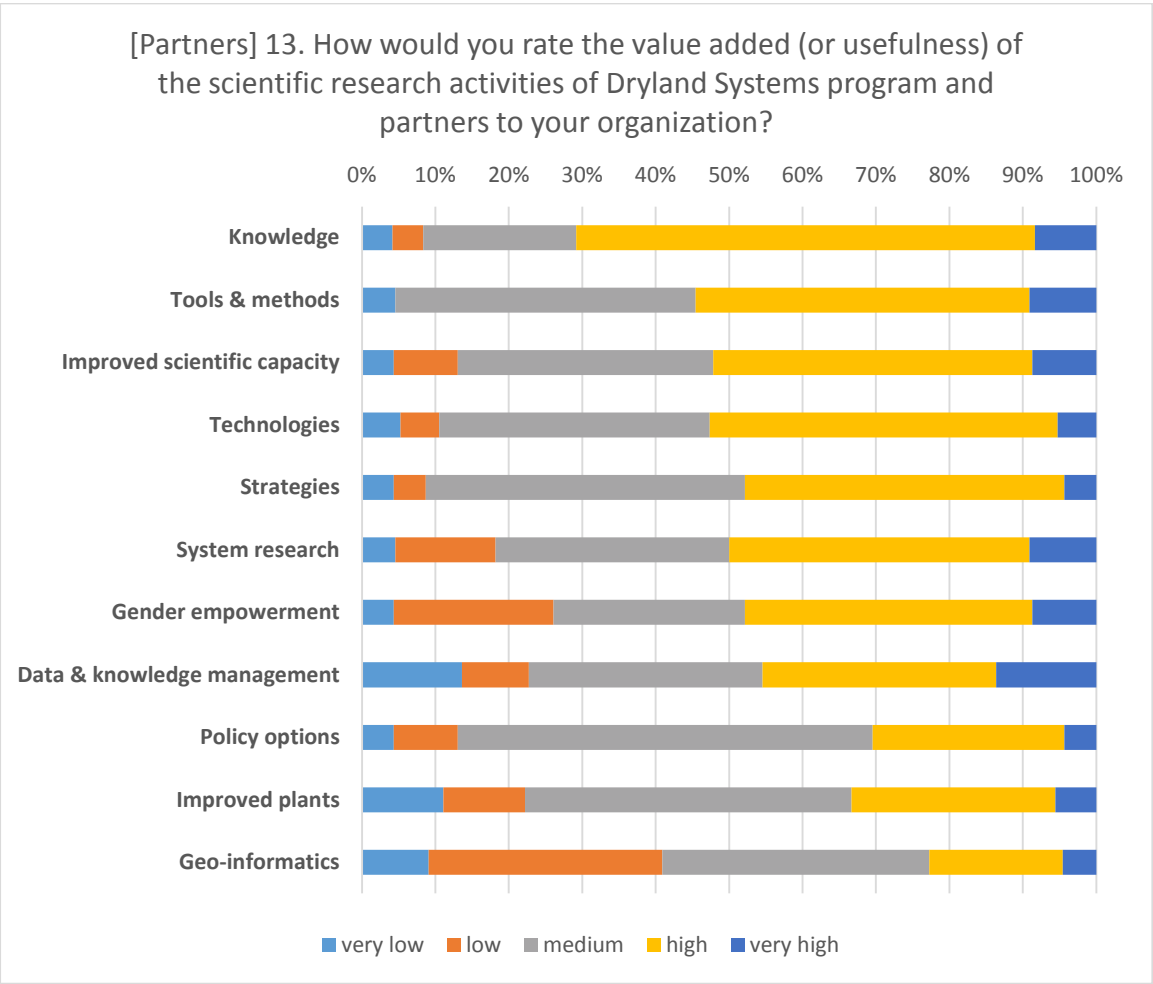


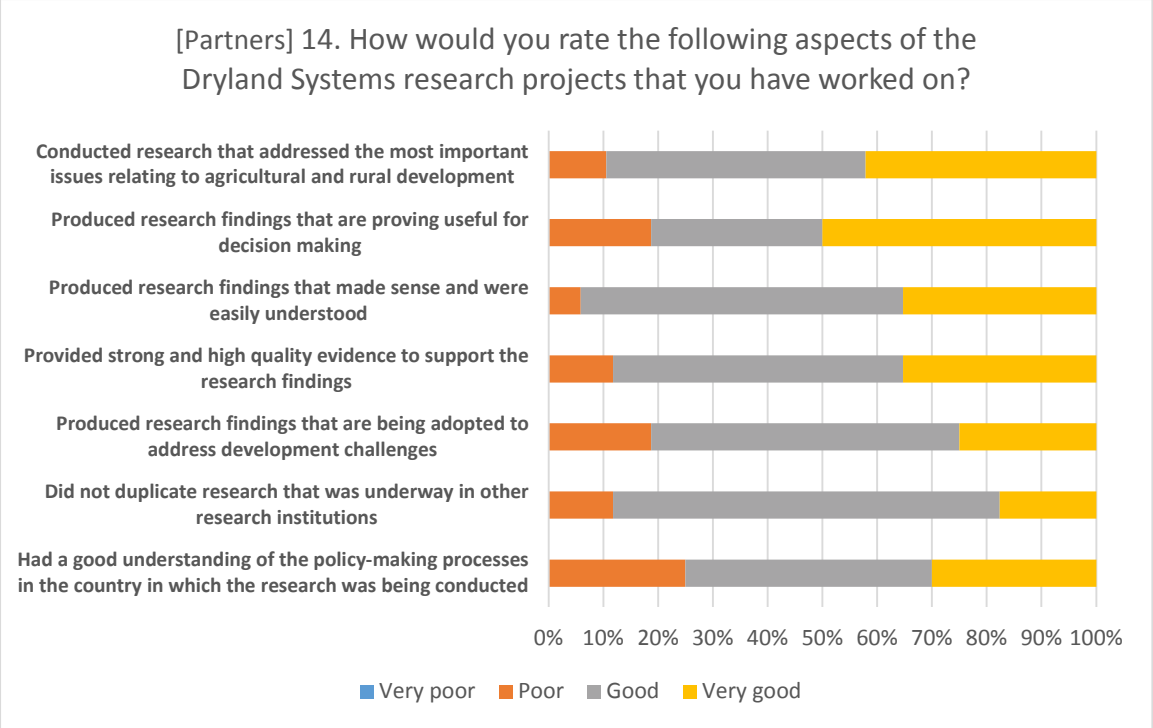

[Partners] 9. For how many of these years have you interacted or worked with the CGIAR in any capacity?
2 years or less
3 - 5 years
6 - 9 years
10 years or more

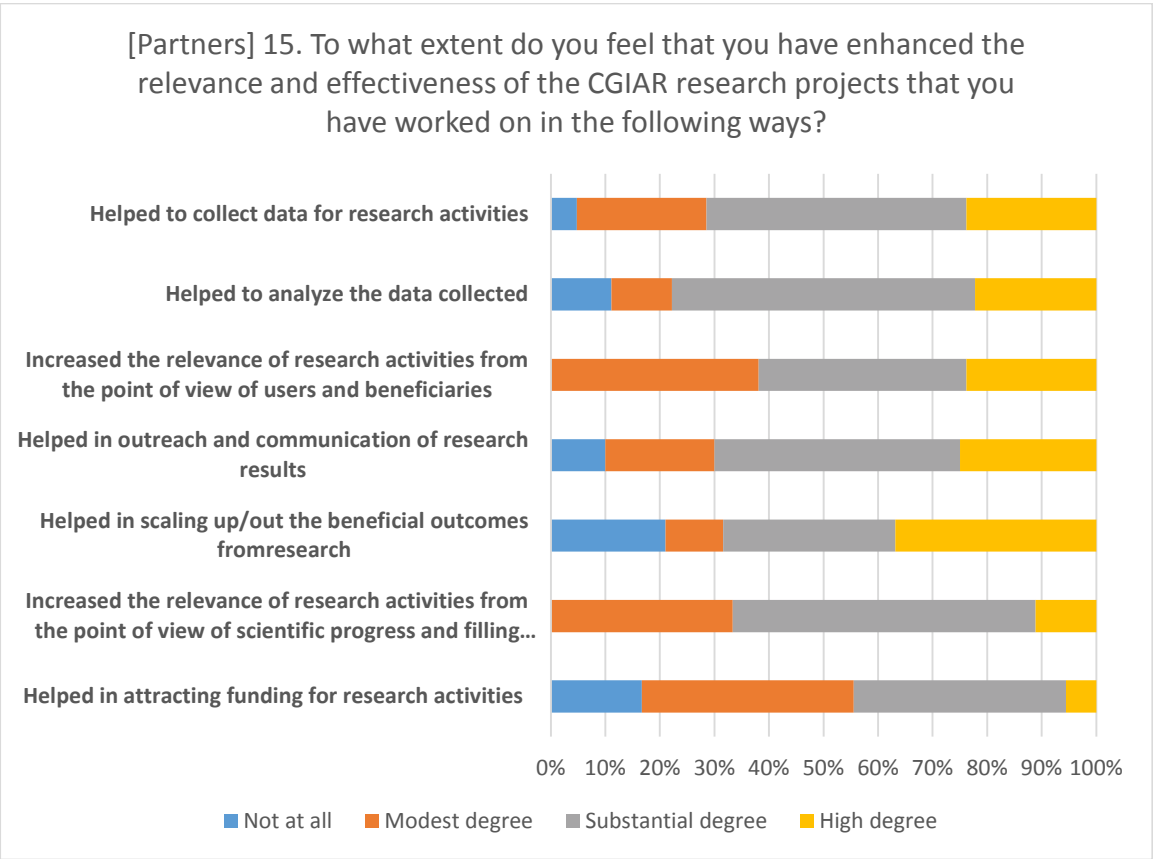

[Partners] 10. How well do you know the CGIAR Research Program on Dryland Systems?
0%
10%
20%
30%
40%
50%
60%
70%
80%
90%
100%
Scientific Work
Vision and mission
Objectives
Theory of Change & Impact Pathway
Capacity Development Strategy
Project Portfolio
Gender Strategy
Governance & Management
very well
well
a little bit
not quite
not at all


[Partners] 11. How much interaction has there been between your home institution and the following organizations?
0%
10%
20%
30%
40%
50%
60%
70%
80%
90%
100%
ICARDA
ICRISAT
ILRI
IWMI
Bioversity
ICRAF
CIAT
CIP
I don't know the organization
I know the organization but my home institution has not yet interacted with it
My home institution has had some but not a lot interaction with it
My home institution has had a lot interaction with it

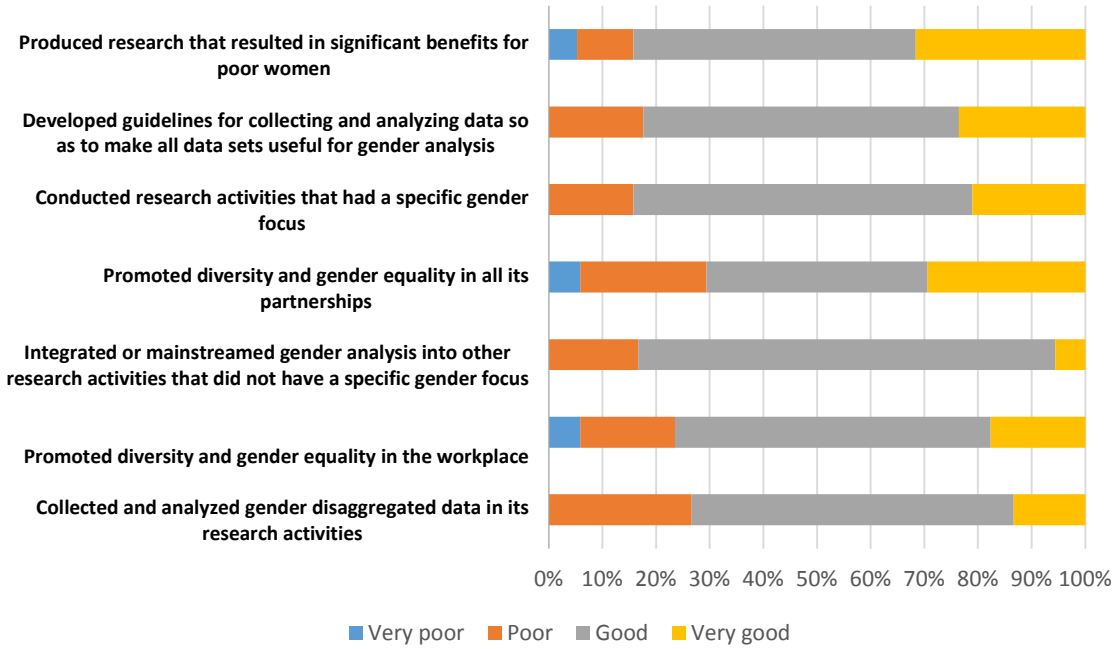

[Partners] 12. To what extent have you worked on the following aspects of Dryland Systems research projects?
0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%
Research implementation
Other outreach activities such workshops
Project planning and design
Feedback to additional or revised research design
Research prioritization
Providing research training/mentoring
Publishing research results, including co-authorship
Receiving training/mentoring or other capacity building
No involvement
Modest involvement
Substantial involvement
High involvement


[Partners] 13. How would you rate the value added (or usefulness) of the scientific research activities of Dryland Systems program and partners to your organization?
0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%
Knowledge
Tools & methods
Improved scientific capacity
Technologies
Strategies
System research
Gender empowerment
Data & knowledge management
Policy options
Improved plants
Geo-informatics
very low
low
medium
high
very high

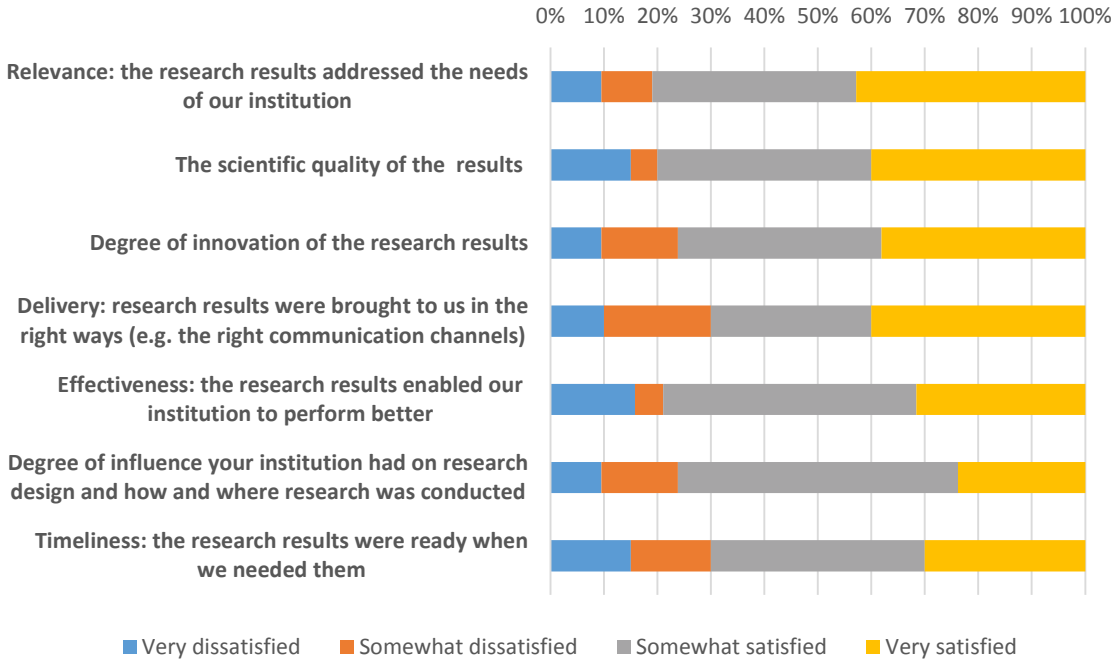

[Partners] 14. How would you rate the following aspects of the Dryland Systems research projects that you have worked on?
Conducted research that addressed the most important issues relating to agricultural and rural development
Produced research findings that are proving useful for decision making
Produced research findings that made sense and were easily understood
Provided strong and high quality evidence to support the research findings
Produced research findings that are being adopted to address development challenges
Did not duplicate research that was underway in other research institutions
Had a good understanding of the policy-making processes in the country in which the research was being conducted
0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%
Very poor
Poor
Good
Very good


[Partners] 15. To what extent do you feel that you have enhanced the relevance and effectiveness of the CGIAR research projects that you have worked on in the following ways?
Helped to collect data for research activities
Helped to analyze the data collected
Increased the relevance of research activities from the point of view of users and beneficiaries
Helped in outreach and communication of research results
Helped in scaling up/out the beneficial outcomes fromresearch
Increased the relevance of research activities from the point of view of scientific progress and filling...
Helped in attracting funding for research activities
0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%
Not at all
Modest degree
Substantial degree
High degree

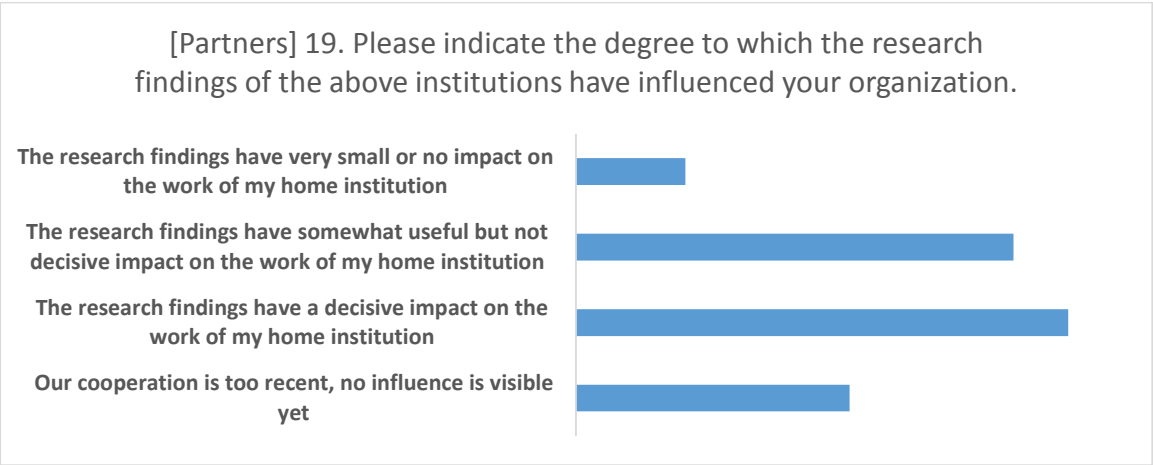
[Partners] 16. Please rate the performance of the Dryland Systems project teams that you have worked with in terms of the following gender related areas?

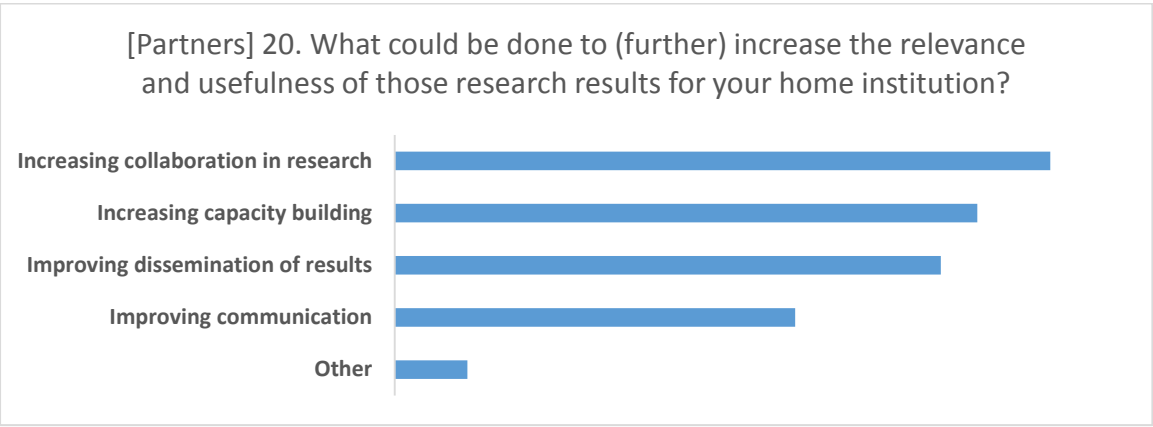


[Partners] 17. How satisfied are you with the research results from the Dryland System program and partner organization(s)?

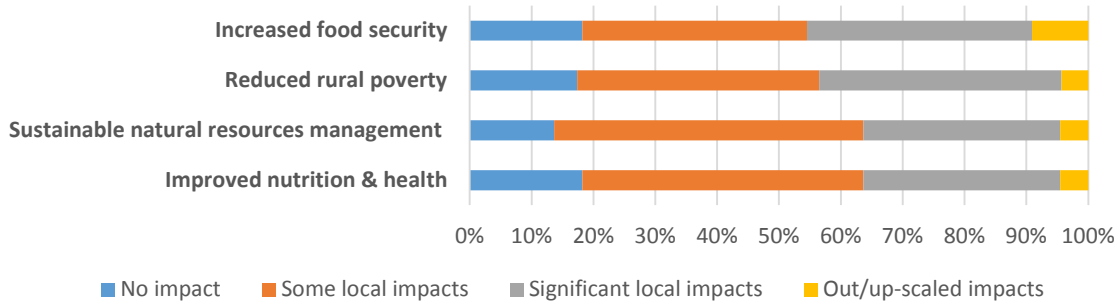



[Partners] 18. How are research findings brought to your institution?
Members of our staff received training or other capacity development support
We listen to presentations from - and discuss with - researchers from those institutions during workshops and...
We receive blogs or newsletters
We read articles in scientific journals
We are briefed in person by researchers from those institutions
We intensely collaborate with the researchers so results are produced together rather than passed on to us
We download documents from the CRP-DS website
We receive written briefing documents by the researchers from those institutions
We download documents from the websites of the research organizations
We receive emails pointing us to the research results from those institutions
Other

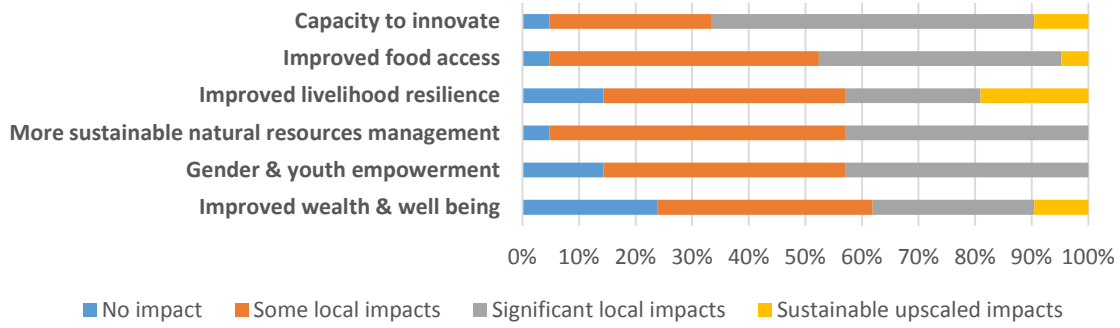

[Partners] 19. Please indicate the degree to which the research findings of the above institutions have influenced your organization.
The research findings have very small or no impact on the work of my home institution
The research findings have somewhat useful but not decisive impact on the work of my home institution
The research findings have a decisive impact on the work of my home institution
Our cooperation is too recent, no influence is visible yet


[Partners] 20. What could be done to (further) increase the relevance and usefulness of those research results for your home institution?
Increasing collaboration in research
Increasing capacity building
Improving dissemination of results
Improving communication
Other

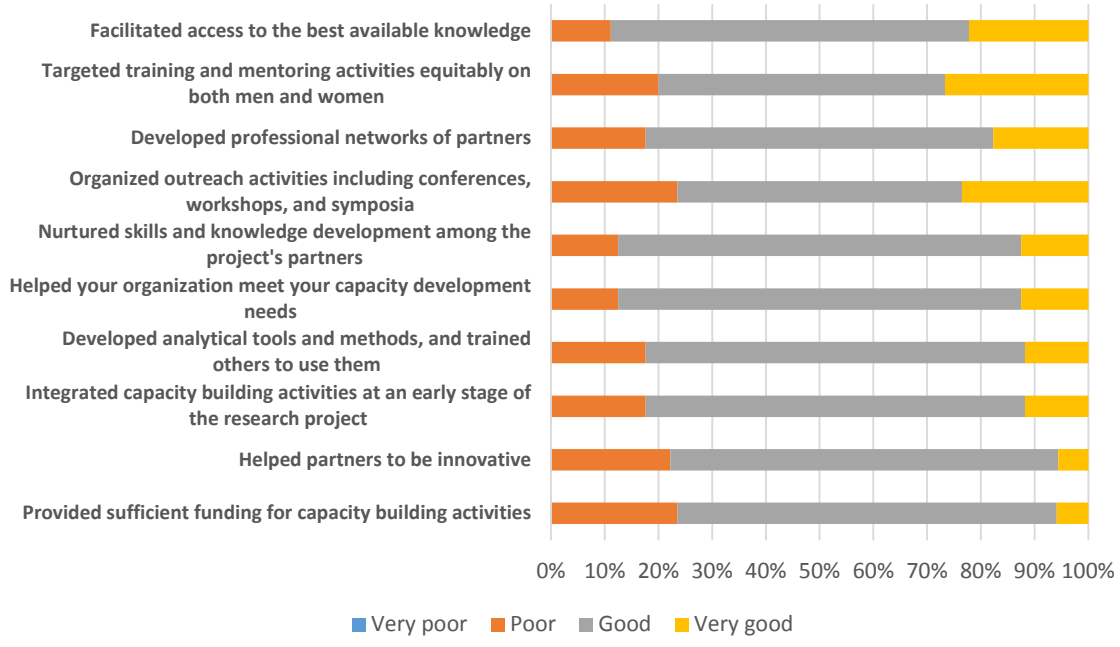
[Partners] 21. Do Dryland Systems program and partners generate and sustain positive impacts in line with these objectives?

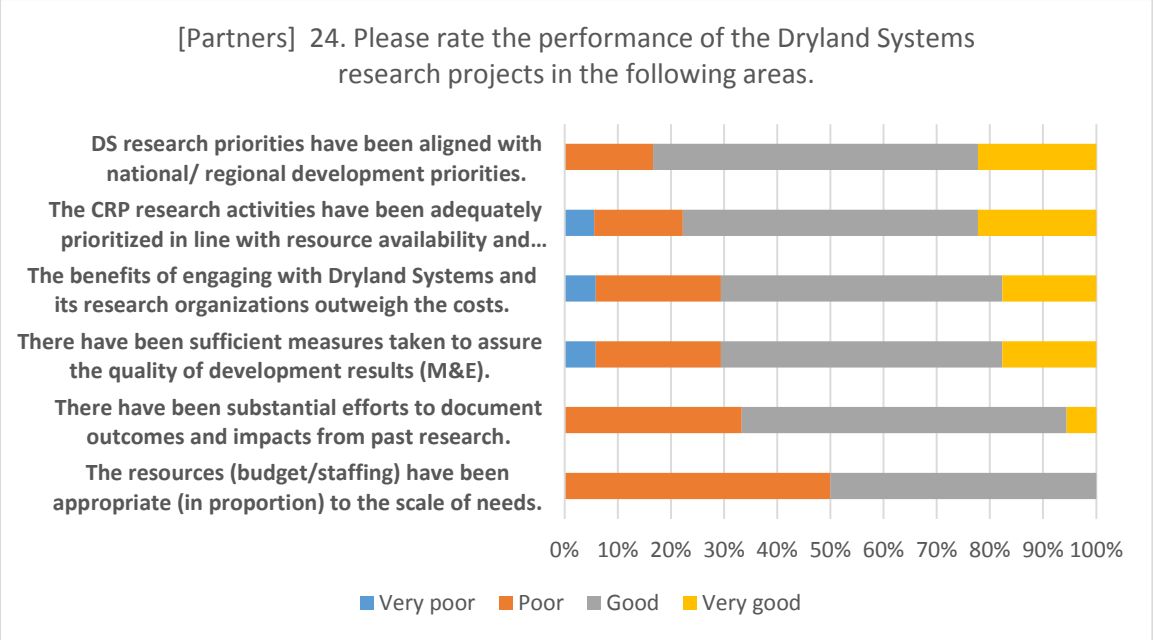


[Partners] 22. To what extent do you think the Dryland Systems Program has achieved or is likely to achieve its expected objectives (IDOs)?



[Partners] 23. Please rate the performance of the Dryland Systems research projects that you have worked on in terms of the following capacity building activities.





Following are detailed and unedited comments made by respondents.

[Partners] 25. In your opinion, what are the major strengths or assets of the Dryland Systems program and its research organizations?

- Multidisciplinary Team work / System based approach / Targeting technology development / Upscaling along impact pathway
- DS is targeting poorest and resource poor rural communities / Interventions are well thought and designed / Partners have good linkages with the rural communities
- The program brings innovations prior the research projects based on what the communities are claiming
- Innovative research results to be communicated to the local level. / Scientific man power
- CGIAR and its organization represent a major knowledge research centre; however, it should now be at the forefront of making these researches accessible to the private sector, to sustain business-oriented development goals
- The strong partnership in project design and implementation. Provision of funding and capacity building.
- Training/Capacity building/ Financial help for research/ developmental activities
- Trained/expert staff
- International exposure and accumulated research experience
- Good technical and material capacity / Good research management
- A scientific approach towards implementation.
- Focus on partnership building.
- Strong focus on strategies.
- Capacity building of national research system and ensuring food and nutritional security, resource resilience and wealth creation and increased income of resource poor farmers.
- This is the most important of the CRPs and fills a vast gap where the CG centres have the greatest value and the most advantages due to their location in the drylands of the developing world. The main asset - which has not been capitalized on - is the opportunity to break down barriers between disciplines and conduct innovate landscape-scale work across sectors
- Research topics are well chosen and affects the vulnerable population.
- The transfer of advanced technologies
- Identifying urgent problems / testing solutions / upscaling to regional level /working with researchers from different countries / disseminating research results / contributing to the scientific potential.

[Partners] 26. In your opinion, what are the main weaknesses or the priority improvement areas for Dryland Systems program and its research organizations?

- More focus and efforts should be put on the capacity building of implementing organizations. More recognition should be given to people working on the ground level. Communication could improve further.
- Funding are not released in time, needs improvement / Budget for Capacity building needs to be increased / Limited scale for research / developmental activities / No funds for research equipment
- Took much time to finalize the interventions / Delayed budget releases
- More capacity building programmes should be conducted
- Lack of involvement of farmers in research prioritization resulting in pushing technologies that are sometimes not very relevant to them.
- Work on grass root level organizations
- Lack of sufficient involvement of local research system in priority setting and gap identification.
- Outreach to the end beneficiaries farmers and citizens at large and no integration in the micro economic levels of activities
- It is better to develop and to follow using organic farming to increase the soil fertility in general now a days the temperature both climate and weather has been changing in Dryland system agriculture it is necessary to increase the organic carbon in the soil, as the organic carbon is deteriorating in the soil due to high atmosphere temperature. For that to rectify this it is necessary to have a suitable suggestions and inputs.
- Poor capacity building on the communities. The rural and poor people do like to see tangible issues to be done in the communities, meaning research through practical messages

- Short term (one year) planning of activities and funding / Slow process of collaborations and funding Shortage of funds / Small scale
- Poor gender equality in project design and implementation.
- The overall strategy was never acceptable to me - particularly the partition between areas considered acceptable for development (crop farming) and those considered only worthy of damage limitation (herding areas). Drylands are 75% rangelands and this field is almost complete absent from the CGIAR. "Sustainable intensification" should be the core of the work in all dryland areas and the debate should be what exactly this means - intensification of what? To achieve what? More efficient (rather than intensive per se) use of scarce resources for resilient dryland farming systems makes more sense. To make the most of the CG diversity i would also prefer a focus on integrated landscape planning - more objective decision making tools to determine which land use to develop where.
- Lack of tangible research projects in the field and in the areas concerned
- Lack of clear strategic plans 2. funding 3. mid-level corruption
- Creating a scientific basis (instruments devices) for deeper research , improved funding

[Partners] 27. Are there any issues that are not covered above but are important to discuss?

- The local Government have some lines and policies of communities development. I think it would be better to aline some research programs on dry lands with the community development policies
- International research organizations should support and collaborate with the national research systems depending on the gaps and weaknesses in the local institutions.

- There is need for long term agreements with the NARS partners as annual agreement are delayed due to slow process for approvals both at NARS authorities and CGIAR level. However,

activities and funding/budget could be planned and decided based on annual review.

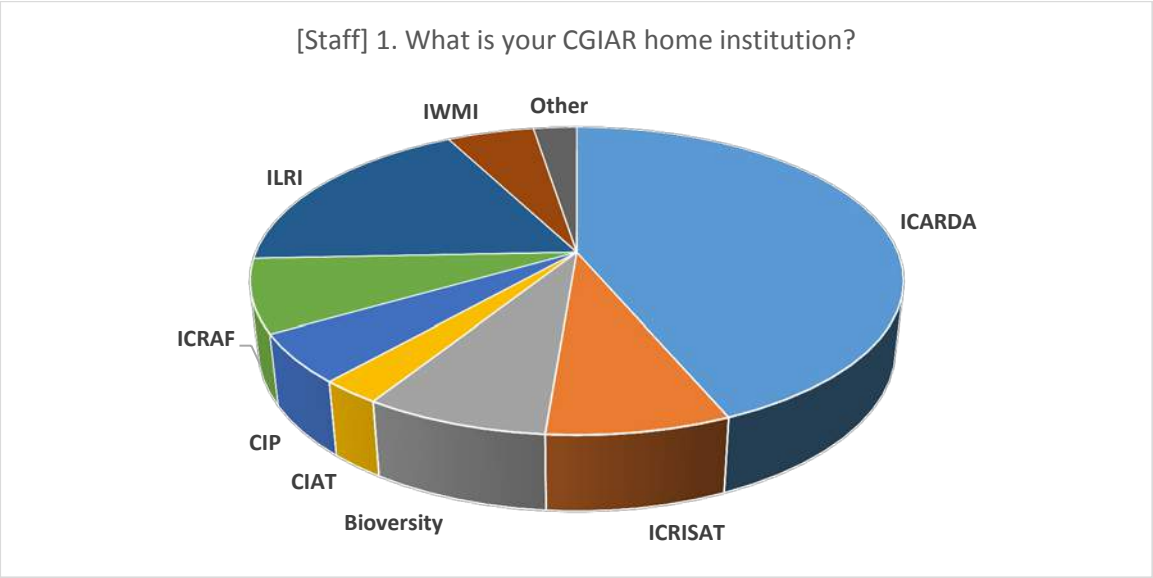
- I left a few questions blank - i could not answer them helpfully as i am pretty unaware of the outputs of the drylands CRP. However, i worked under the CRP1 coordinator at ILRI so the fact that i know so little is a pretty strong comment on what has (or has not) been communicated.

- Low level of involvement of youth in project implementation. Inadequate and timely release of funds are challenges.
- So far not suitable resistance varieties of crops developed so it is necessary to develop drought tolerance and resistance varieties both in Food crops and pulses, oil seeds under Dryland Agriculture in rural areas. Thank you for sending the questioner and felt happy.

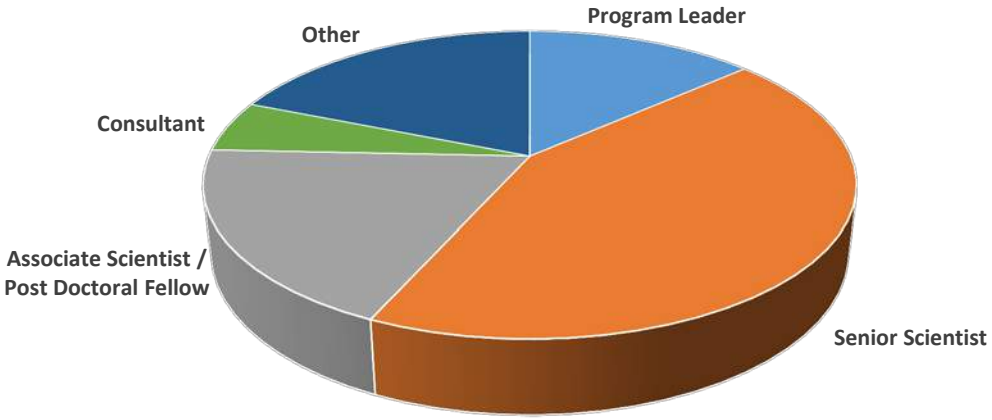
- [fr] we must broaden the dialogue with local actors for the implementation of projects and is not limited solely to persons connected in the decision-making system
- Suitable documents should be produced on research results in Dryland Systems to follow by the farmers to increase production. It is needed to arrange and supply the inputs on Dryland Agriculture low rainfall areas.

B. Staff Survey Results

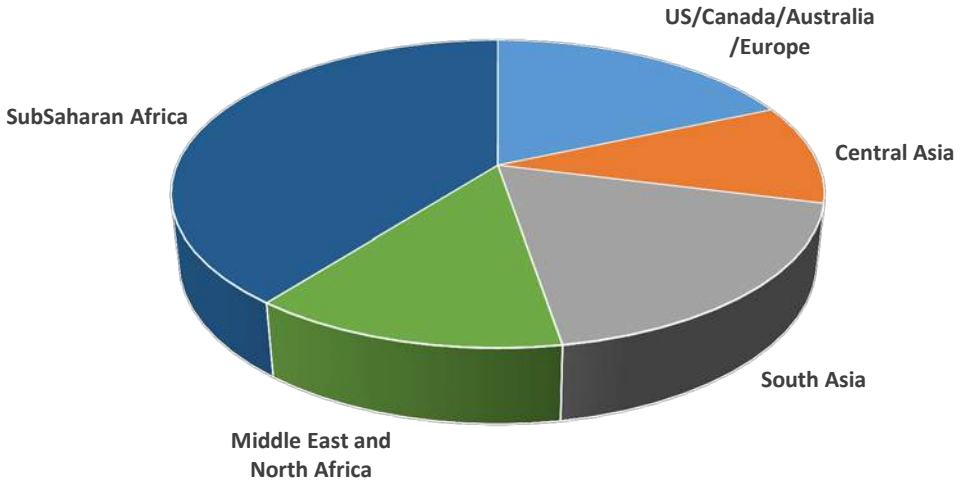
The following figures present the results for the questions asked.



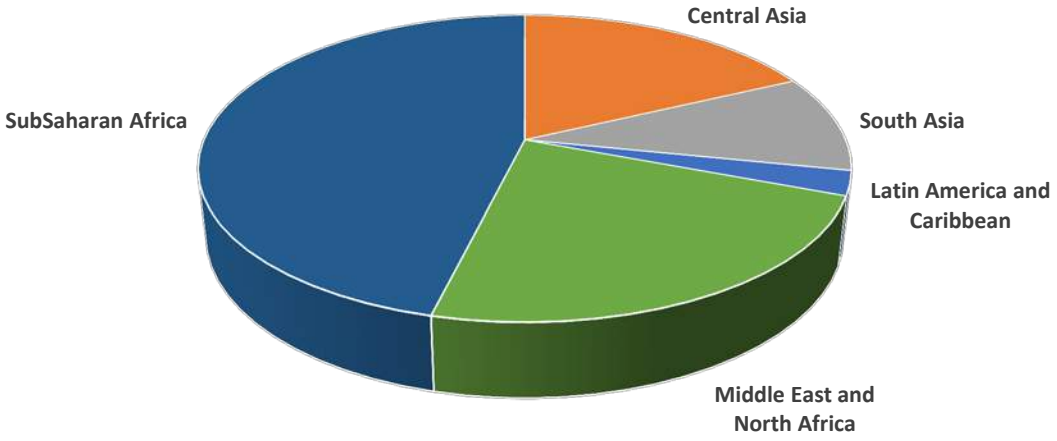
[Staff] 2. What is your research position?

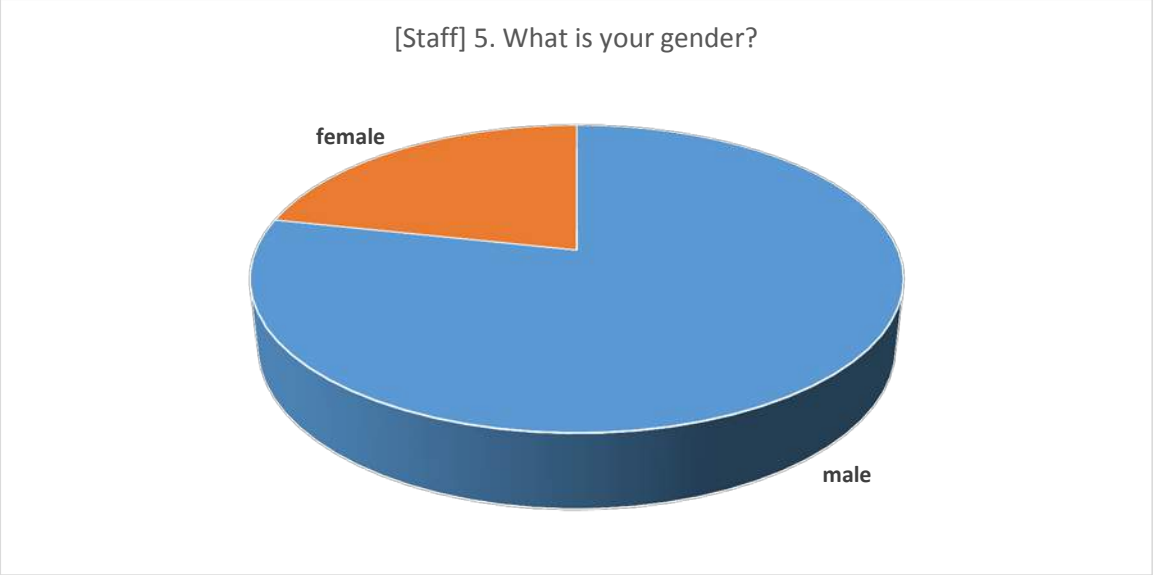


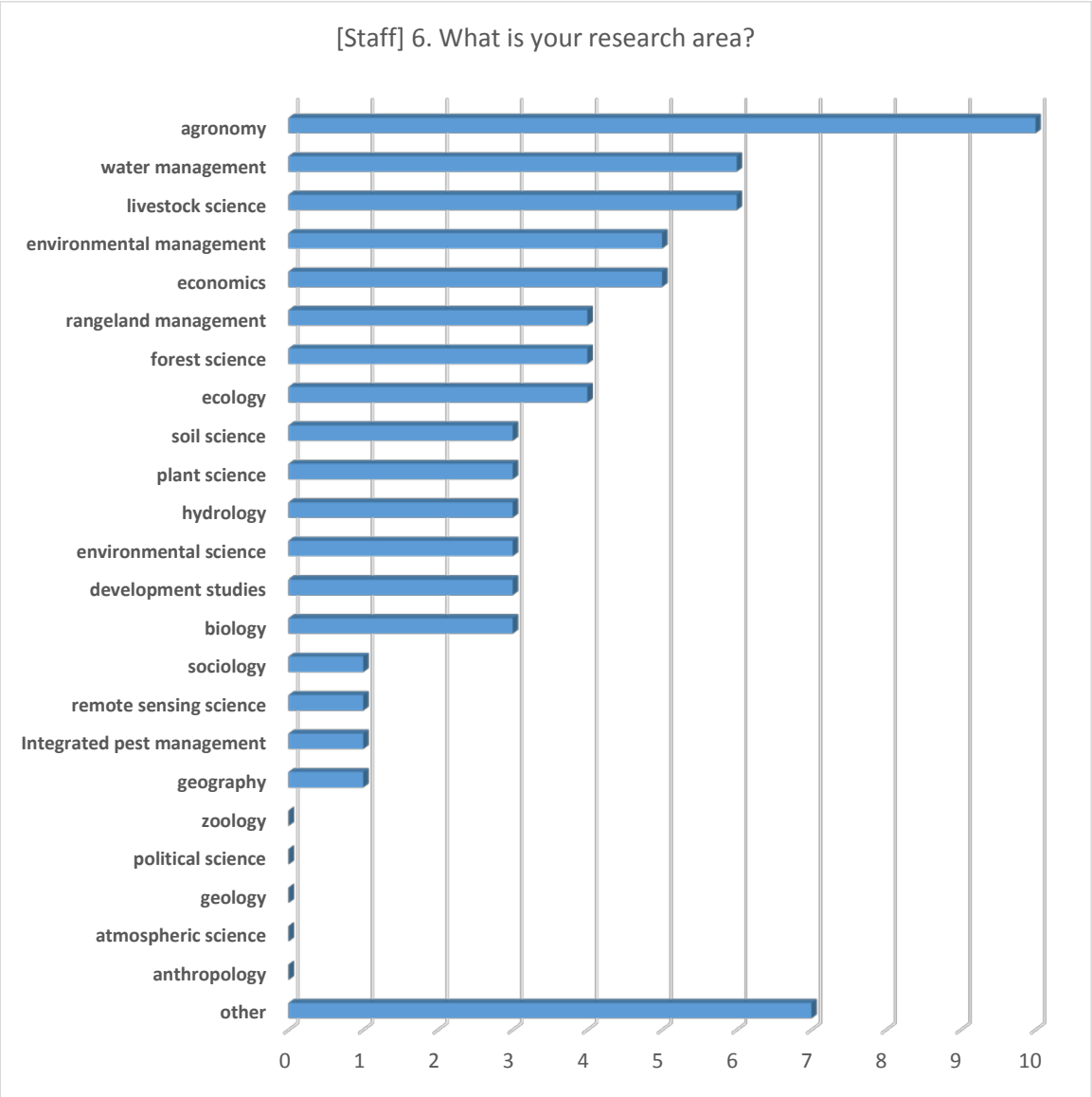
[Staff] 3. What is your nationality or region of origin?



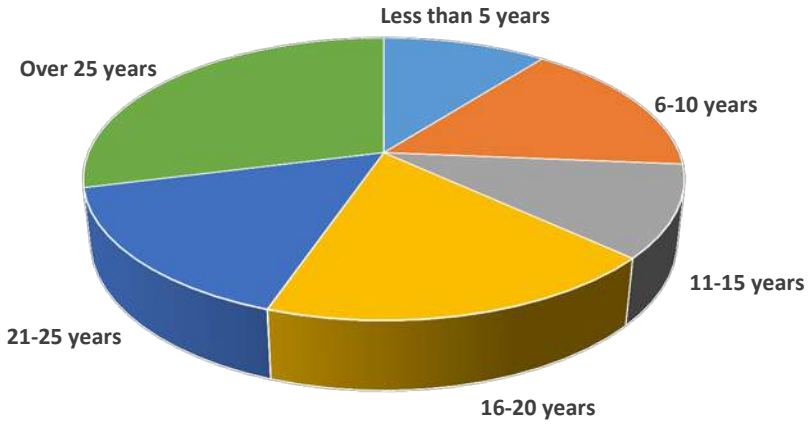
[Staff] 4. In what region are you currently based?



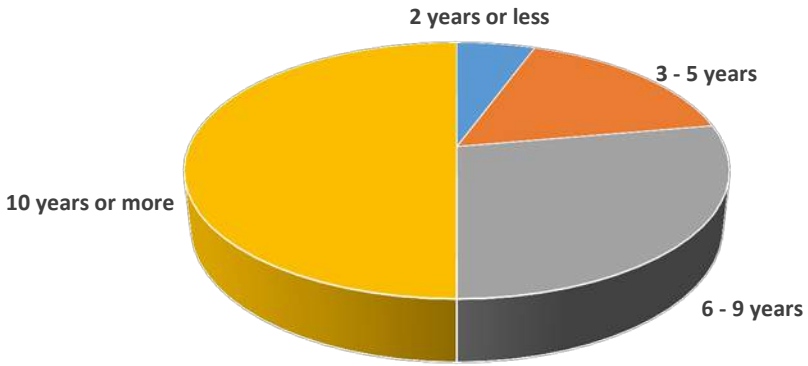

[Staff] 5. What is your gender?
female
male


[Staff] 6. What is your research area?
agronomy
water management
livestock science
environmental management
economics
rangeland management
forest science
ecology
soil science
plant science
hydrology
environmental science
development studies
biology
sociology
remote sensing science
Integrated pest management
geography
zoology
political science
geology
atmospheric science
anthropology
other
0
1
2
3
4
5
6
7
8
9
10

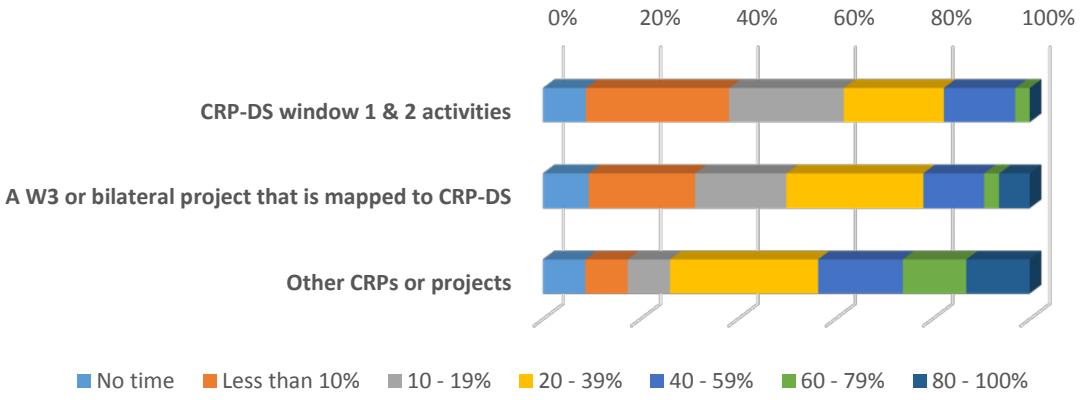
[Staff] 7. How many years of professional experience do you have since completing your academic education?

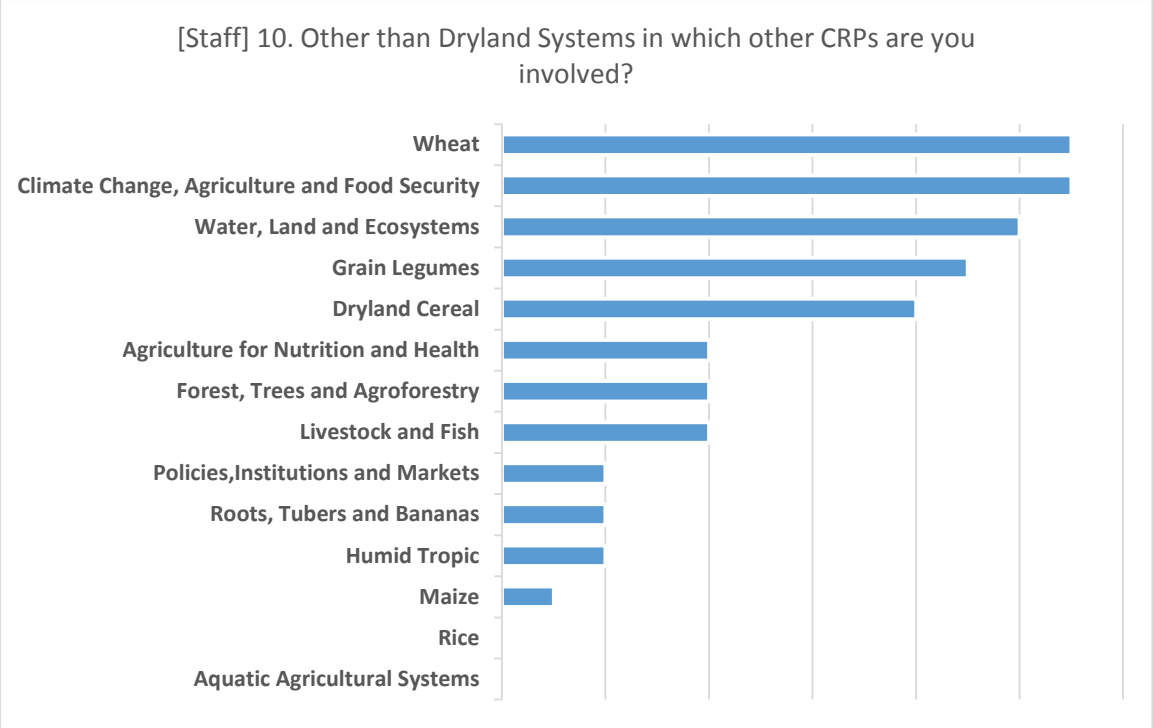


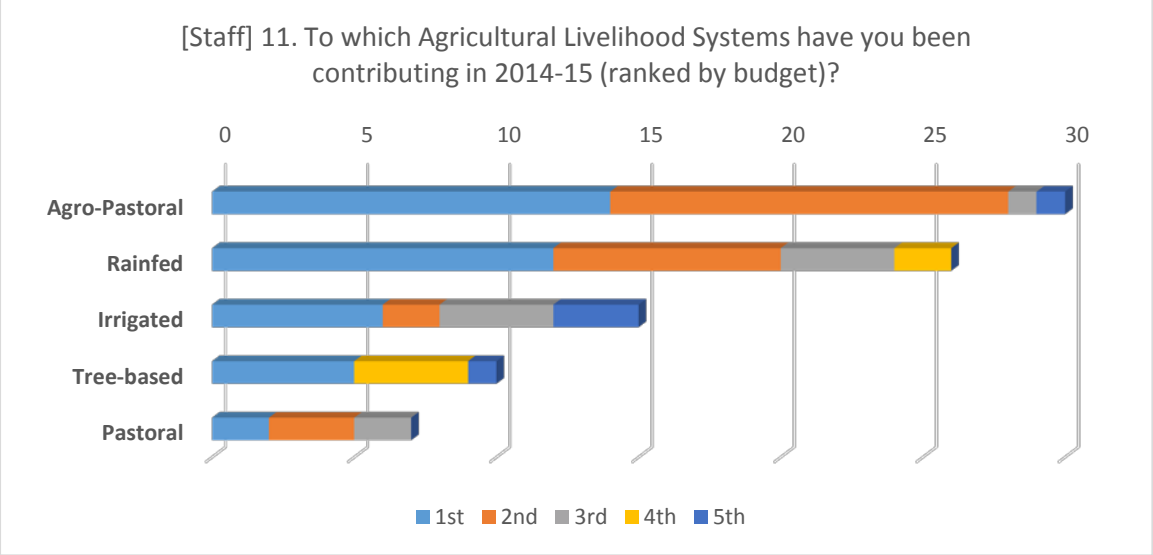
[Staff] 8. For how many of these years have you worked with the CGIAR in any capacity?

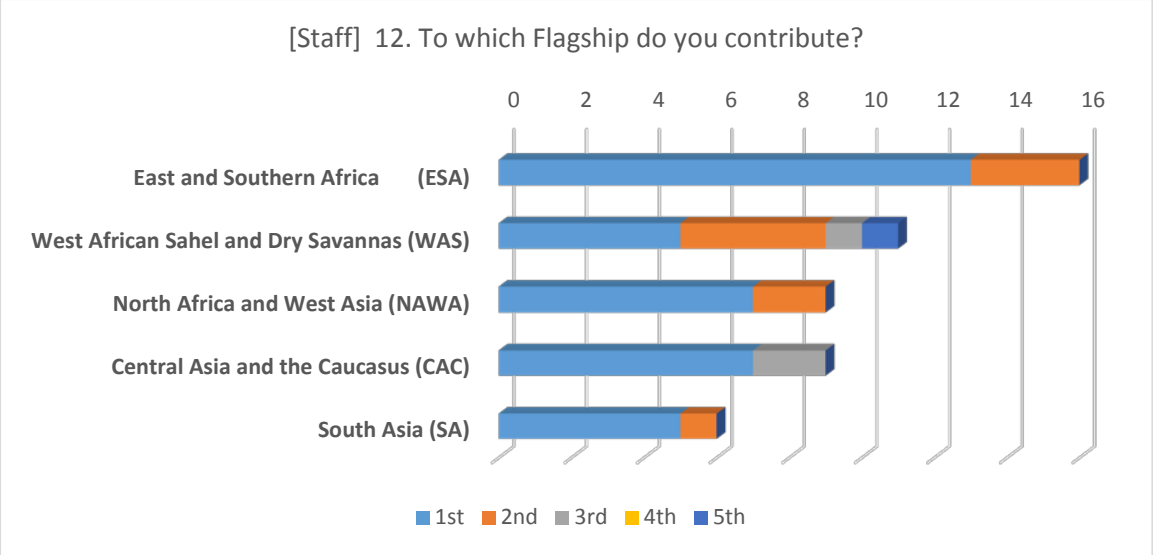


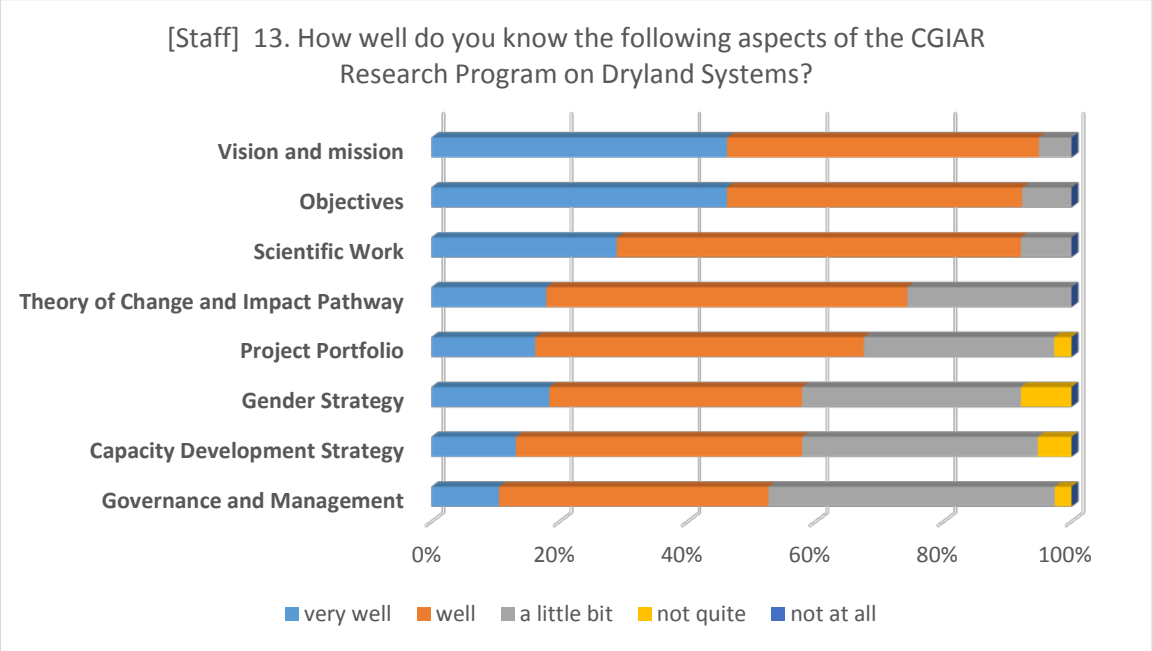
[Staff] 9. What percentage of your time is dedicated to Dryland Systems research activity?

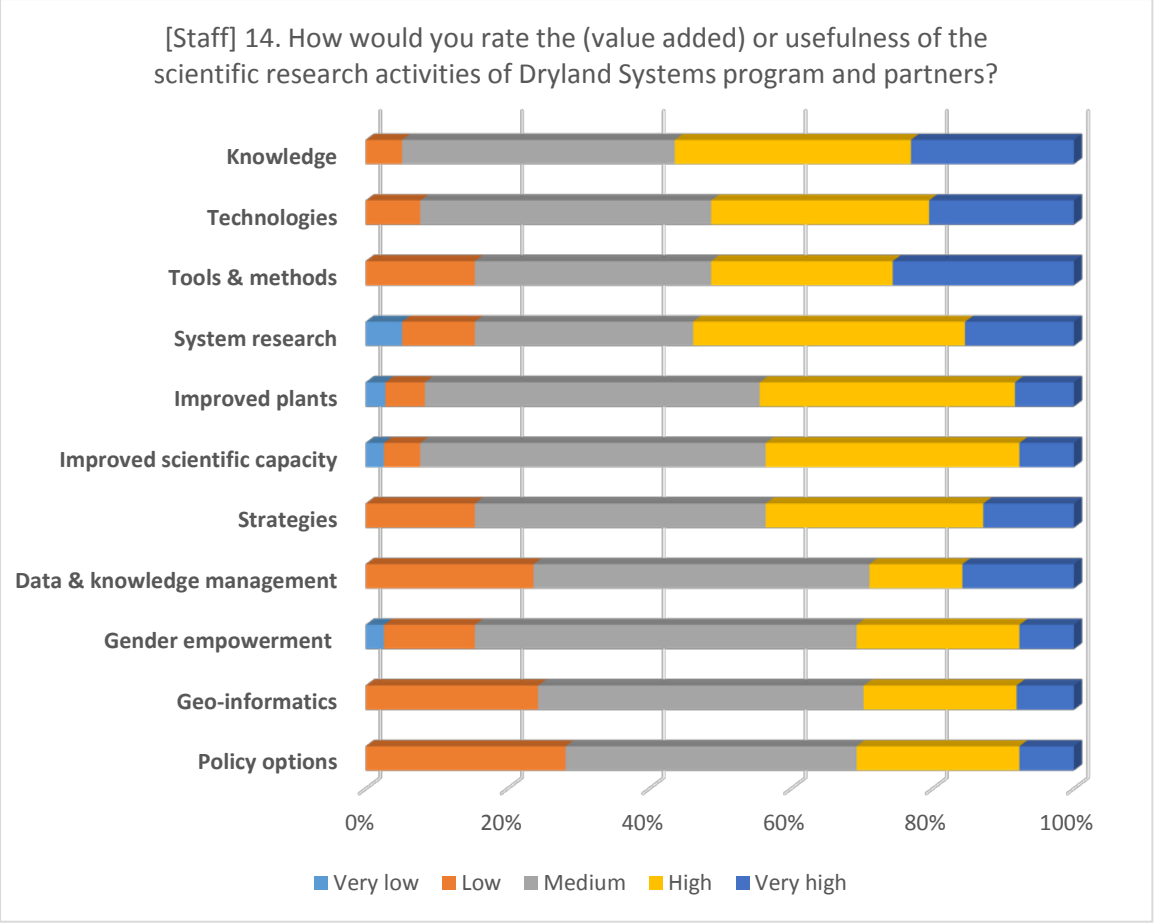


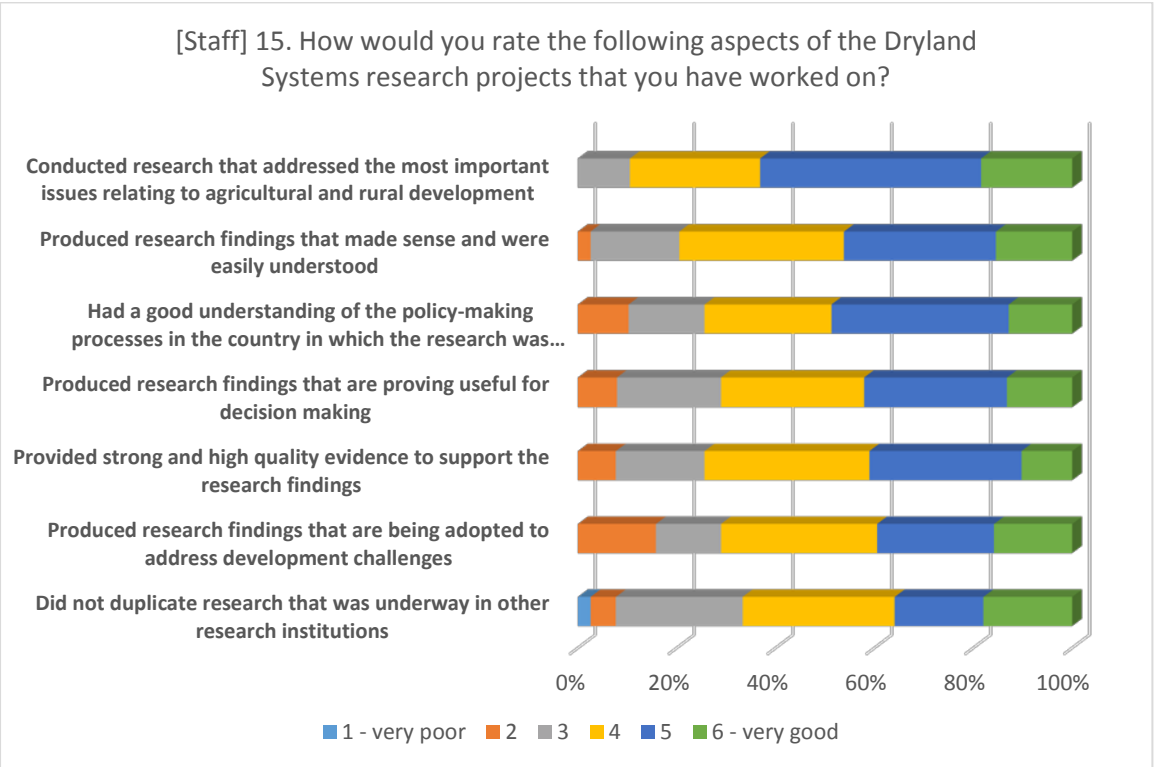

[Staff] 10. Other than Dryland Systems in which other CRPs are you involved?
Wheat
Climate Change, Agriculture and Food Security
Water, Land and Ecosystems
Grain Legumes
Dryland Cereal
Agriculture for Nutrition and Health
Forest, Trees and Agroforestry
Livestock and Fish
Policies,Institutions and Markets
Roots, Tubers and Bananas
Humid Tropic
Maize
Rice
Aquatic Agricultural Systems


[Staff] 11. To which Agricultural Livelihood Systems have you been contributing in 2014-15 (ranked by budget)?
0
5
10
15
20
25
30
Agro-Pastoral
Rainfed
Irrigated
Tree-based
Pastoral
1st
2nd
3rd
4th
5th

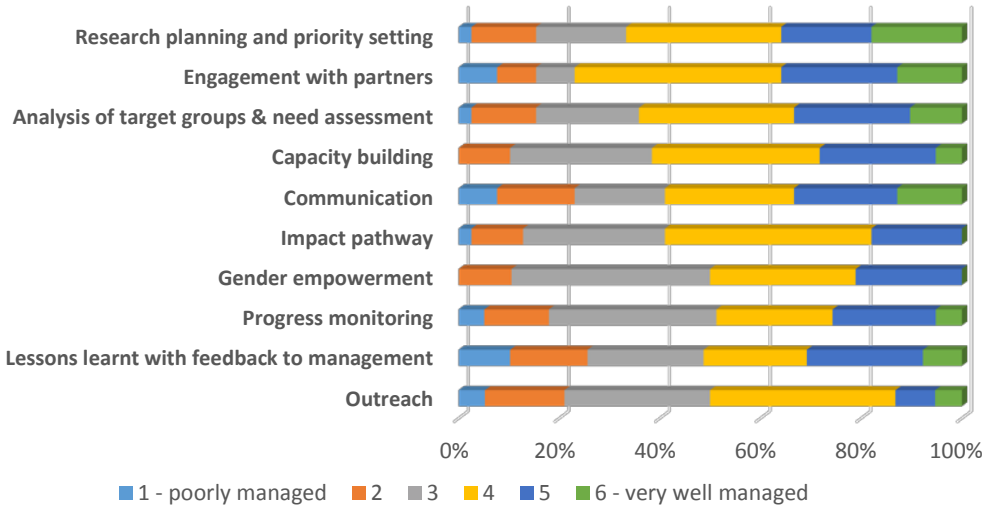

[Staff] 12. To which Flagship do you contribute?
0
2
4
6
8
10
12
14
16
East and Southern Africa (ESA)
West African Sahel and Dry Savannas (WAS)
North Africa and West Asia (NAWA)
Central Asia and the Caucasus (CAC)
South Asia (SA)
1st
2nd
3rd
4th
5th


[Staff] 13. How well do you know the following aspects of the CGIAR Research Program on Dryland Systems?
Vision and mission
Objectives
Scientific Work
Theory of Change and Impact Pathway
Project Portfolio
Gender Strategy
Capacity Development Strategy
Governance and Management
0%
20%
40%
60%
80%
100%
very well
well
a little bit
not quite
not at all

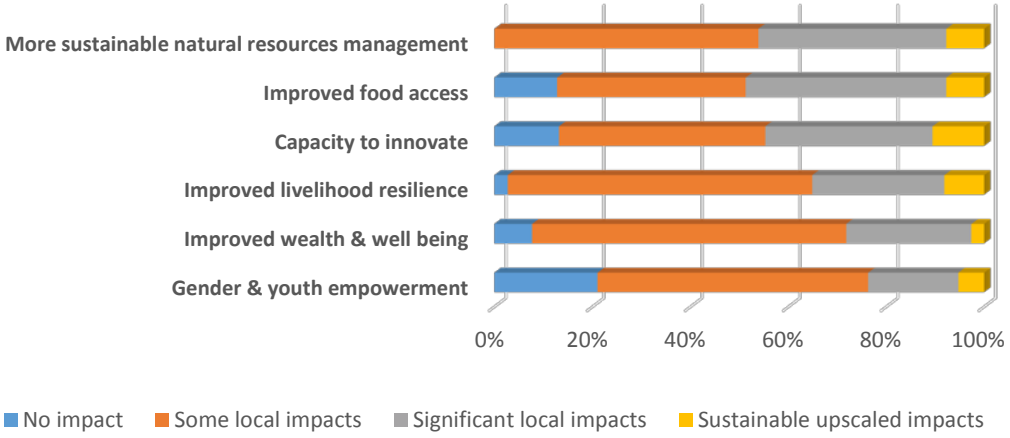

[Staff] 14. How would you rate the (value added) or usefulness of the scientific research activities of Dryland Systems program and partners?
Knowledge
Technologies
Tools & methods
System research
Improved plants
Improved scientific capacity
Strategies
Data & knowledge management
Gender empowerment
Geo-informatics
Policy options
0%
20%
40%
60%
80%
100%
Very low
Low
Medium
High
Very high


[Staff] 15. How would you rate the following aspects of the Dryland Systems research projects that you have worked on?
Conducted research that addressed the most important issues relating to agricultural and rural development
Produced research findings that made sense and were easily understood
Had a good understanding of the policy-making processes in the country in which the research was...
Produced research findings that are proving useful for decision making
Provided strong and high quality evidence to support the research findings
Produced research findings that are being adopted to address development challenges
Did not duplicate research that was underway in other research institutions
0%
20%
40%
60%
80%
100%
1 - very poor
2
3
4
5
6 - very good

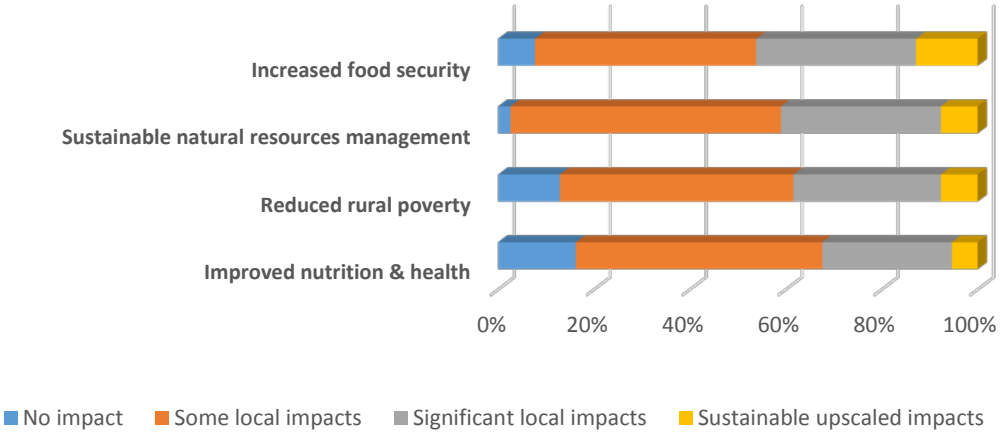
[Staff] 16. How well are the following aspects for enhancing the effectiveness of the Dryland Systems Program managed?



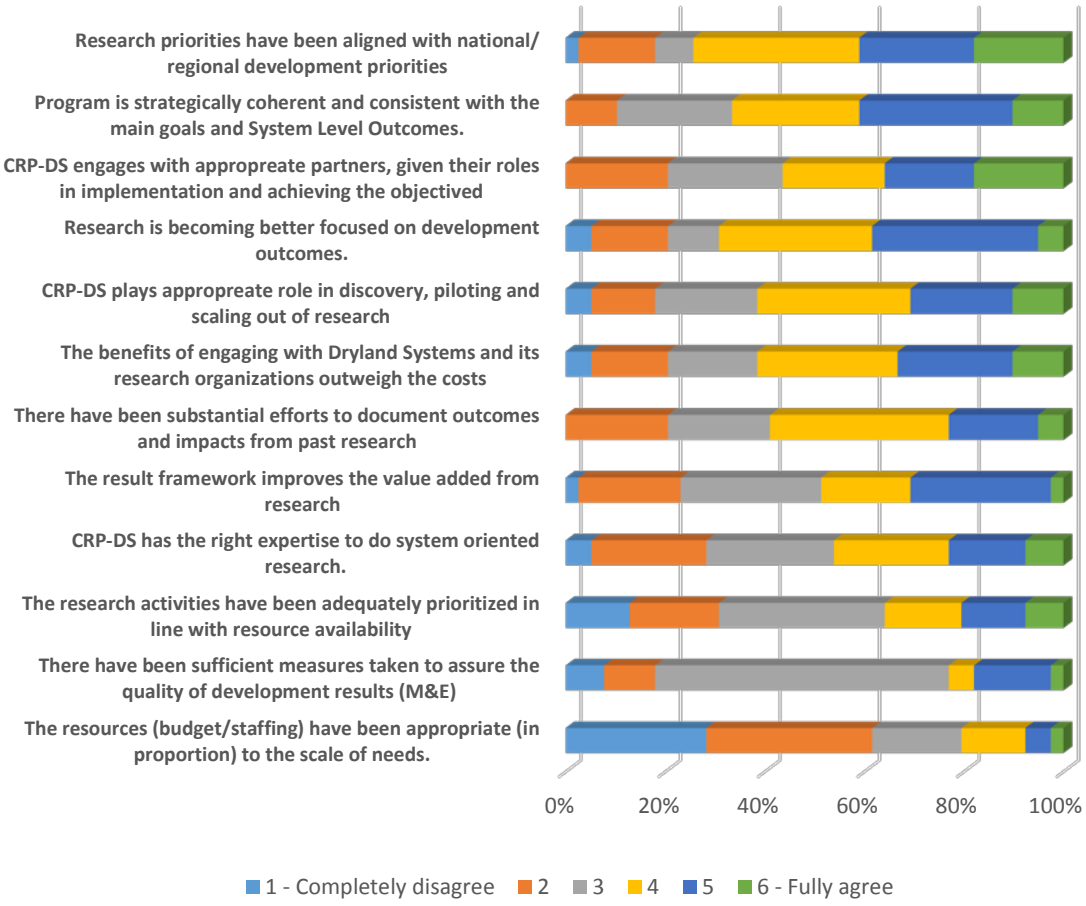
[Staff] 17. To what extent do you think the Program has achieved or is likely to achieve its expected objectives (IDOs)?



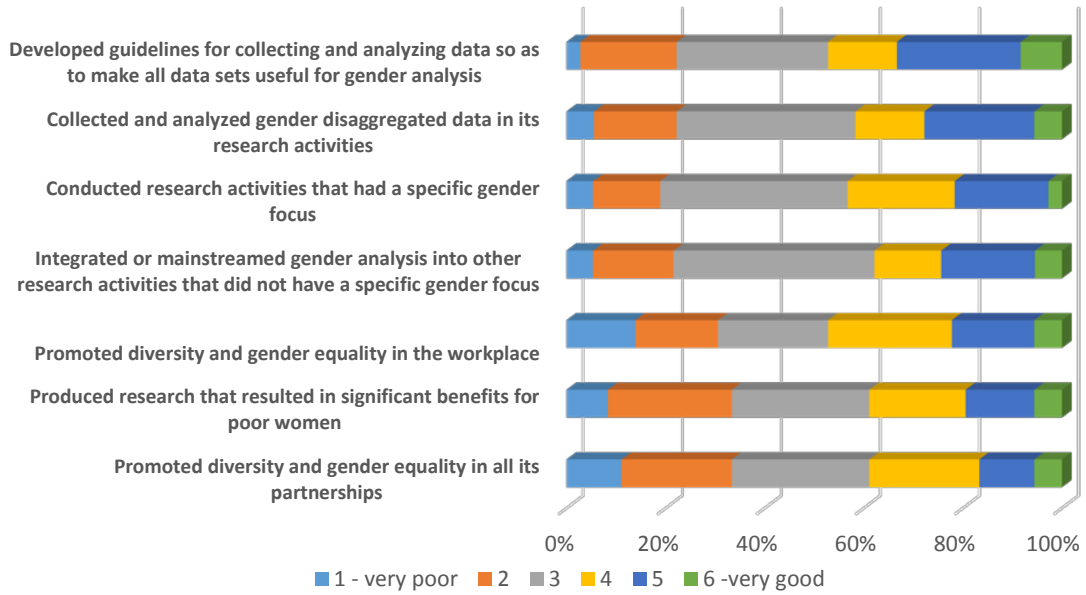
[Staff] 18. Do Dryland Systems program and partners generate and sustain positive impacts in line with these objectives?

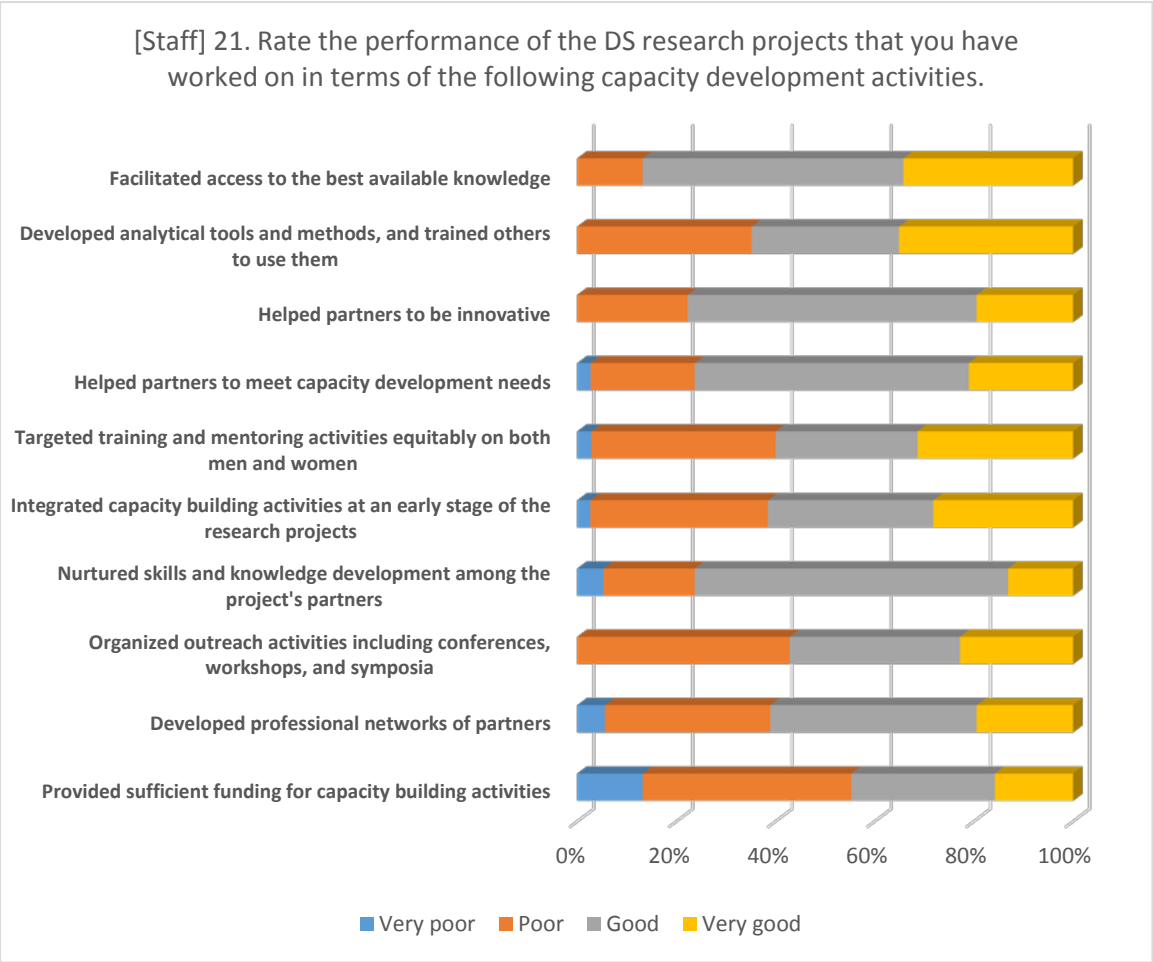


[Staff] 19. Rate the performance of the Dryland Systems research projects in the following areas.



[Staff] 20. Rate the performance of the CGIAR project teams that you have worked with in terms of the following gender related areas.





Following are detailed unedited responses by respondents from CGIAR Centres

[Staff] 22. How do you ensure that the results of your activities are not restricted or limited by proprietorship rights? What mechanisms do you use to guarantee that information and data is freely and easily accessible and safely stored?

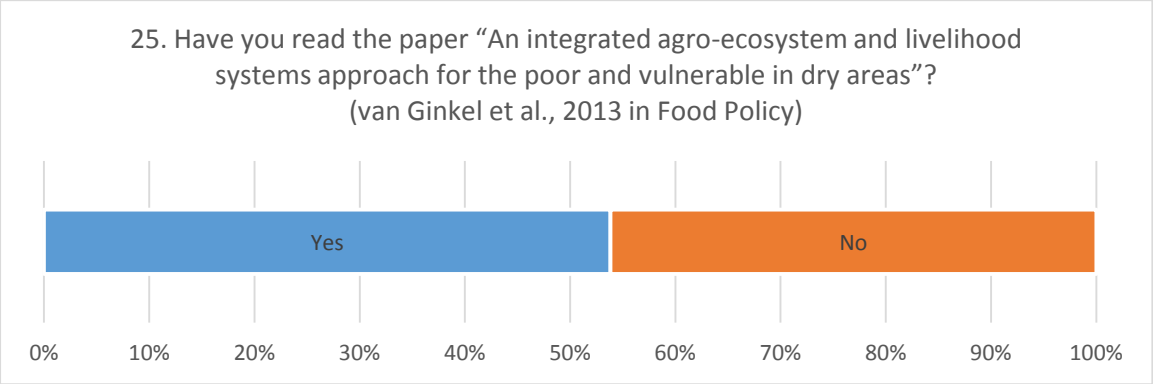
- Information is available to the public on the website. Papers and reports are available as well.
- Shared outputs on CRP-DS website
- Publishing in open access journals Ensure MoU respect CG policies
- Organizational policy
- Agreements are signed at the beginning of the project with clear stipulations of intellectual property and data ownership rights.
- Explain Open access under CGIAR Research and partnerships
- by employing all available and accessible publicity tools including classic tools like field days, brochures and technical manuals, internet and social media
- CGIAR policies including those pursued by the DS CRP are adequate and have been implemented.
- The results from the activities are published and can be accessed as the regulations of the program.
- Discussed with partners time to time. Organized workshops.
- The approaches developed are considered as International Public Goods
- Sharing data with data, and make information open access
- By publishing in open space journals

[Staff] 23. Can you be certain that any technology and information that might be used from third parties at the beginning of the project does not need permission or license? If such permission/license is needed, have you obtained it and if so at what price?

- Yes, I am certain it does not need any special permission.
- No license needed
- No technology from 3rd party is used
- No
- any promoted technology should target livelihood enhancement, permissions and property rights may restrict the adoption of technology, some permissions were asked to ensure correct technical implementation of given technology.
- Yes, I am certain that we did not need in our region/teams this permission
- We tried to involve the third parties in as much as possible and hence we are certain that we can use the technology or information.

[Staff] 24. Do you think there is an agreed and shared understanding of what is meant by the term "dryland systems"?

- Somewhat likely / No / YES /Dryland yes, Systems no / NO /mostly / No / yes / Not sure
- I think yes. What is still on an experimental stage but with promising results is the mechanics of the implementation of systems research.
- No not really. in Southern Africa - Chinyanya Triangle - the 2 selected target districts are 2 extremes of which one is not really Drylands as I understand it but it was selected because partners were already working there...
- Yes - it has been explained by both DS Drylands Directors and in various DS documents.
- Not widely and correctly.
- Yes, in most cases..



[Staff] If yes, how have you used the ideas in this paper in designing and implementing your research under CRP-DS?

- Intuitively while undertaking activities
- not at all / Mostly / To some extent
- no, but not because I agree or disagree with the paper
- It influenced my approach to drylands research projects
- Yes I am co-author
- We agree with their argument that integrated systems approaches are, dynamic with some aspects having inherent risk elements and involve trade-offs that need to be understood. To this effect, we are trying to build bio-economic models both at household and watershed levels which we hope will help us understand the systems dynamics and evolution under different combinations of technological, policy, institutional, market and climate change scenarios.
- I'm not involved in project design.
- I am involved in a bilateral project on crops x livestock integration which started in 2012. This paper helped our team as we continued to reflect and plan in the annual meetings to test our

approach on integrated systems approach. The case study on crop x livestock integration was also helpful.
- Somewhat as each case is different

[Staff] 26. In your opinion, what are the major STRENGHTS or assets of the Dryland Systems program and its research organizations?
- Bringing on board different actors in dryland agriculture
- Building global partners in research for development
- better resouce management and avoid research duplication
- In my opinion, CRP DS is a good experimentation of the new approach of systems analysis. It has brought together scientists with different backgrounds and good progress has been made in trying to integrate all their efforts. Of course, it is long way before this is perfected and the results will be widely applicable.
- Systems Research is the strength of this program. it makes sense to use a systems approach. it should continue.
- established partnership
- Brought some of the CGIAR centres together for networking opportunities.
- Success on local level
- system approach requiring cooperation of scientists of different discipline
- It addresses sustainable approaches to dryland development.
- WASDS: diversified and engaged partners including CG centers 2. Gender including youth engagement 3. Contexts
- created awareness about systems research and started to initiate a network on systems research and approaches involving developing and advanced research institutions (Australia, EU…)
- The coverage area and systems approach are it strengths.
- The integrated, systems research started by the DS CRP brings together knowledge, strategies, technologies and approaches of individual CGIAR Centers, establishing effective linkages among them, facilitating participatory engagement with farmers and adding value over individual Center efforts. It is a logical continuation of the largely commodity based past efforts of the CGIAR. The Program has the potential to accomplish significant impact on the ground and to be integrated into national agricultural research strategies.
- Its area of research includes sustainable intensification which is necessary option in the world of population growth and climate change. Its system component is also important as farmers operate under 'systems' framework as they have to deal with many components and drivers.
- diverse partnership.
- System approach Its current team

[Staff] 27. In your opinion, what are the main WEAKNESSES or the priority improvement areas for Dryland Systems program and its research organizations?
- Many of the organizations working in the CRP continue doing business as usual and not doing real Systems work. everybody continues engaging with same farmers on THEIR issue not as a program.
- Large area coverage poor understanding of system approach Weak engagements of other commodity CRPs
- communication and management of CRPDS
- Stability of funding and the need to push scientists to come out of their comfort zone to integrate and work with people from other disciplines are the major challenges which need to be improved if this is to produce useful products.
- Stability
- Integration with crop improvement and livestock
- Lack of integration between disciplines and delays in drafting POWBs and releasing funds and, finally, regular budget cuts.
- The DS program should have hired from the beginning a critical mass of scientists with skills on systems, modeling

- Lack of appreciation of the complexity of drylands systems and limited knowledge of the broad and diverse communities that inhabit these systems. The research organization was not fit for purpose in terms of cohesion
- too many to go into, but they stem from poor management and leadership at the beginning followed by the measures taken by the CGIAR fund council to drastically reduce the budget. AT the moment the CRP is fairly ineffective.
- Management: an institutional culture that does not nurture innovation, frequent and unjustified change of strategy, bad/late planning, lack of transparency, lack of subsidiarity, mismatch between responsibility and accountability at all levels. The DS CRP Office has never been properly staffed and has been without basic competences in project management.
- Poor distribution of financial resources to flagships 2. DS governance through centers rather than from DS Directorate. 3. System research
- Centralization
- NARS not orienting national agricultural research activities in the line of system research.
- poor management and lack of communications.

[Staff] 28. Are there any issues that are not covered above but are important to discuss?

- In my understanding, the shift into CRPs as opposed to funding individual institutions was necessitated for three major reasons but in my opinion the CRP approach is failing in all three fronts: I) They are not delivering the long term funding they promised to enable scientists to embark on useful and long term research; 2) Duplication of efforts seem to be still hovering around (if not worsened); 3) Institutional boundaries have become even more important where centres are finding themselves fighting for leadership and/or bigger share of the pie in funding. Achieving high adoption of agricultural technologies is a long term goal. Some argue that the average number of years for a given agricultural technology to be adopted by the vast majority is 8-12 years. Therefore, the demand by the consortium for CRPs to report on IDOs in less than 5 years is completely unreasonable.
- The survey ignores collaboration among CGIAR Centres - this is reason for a lot of delays and confusion. There is not a mentality to work as 1, everybody does what they have been doing before.
- The DS program like the two other Systems programs (Humid tropics and aquatic) should not be evaluated with the same criteria and time pace as commodity/value chain. We cannot expect impact from systems research in a short time (3 years) we need minimum 5 years to set the framework but the benefits are of mid and long terms This has been the case of evaluating the impacts of INRM research versus breeding
- Contribution/importance and relationship with bilateral projects and other CRPs.
- Theory of change was purely theory, with no practical and technical support 2. I completely disagree that CRP-DS should M&E of outputs, outcomes and impacts from the beginning: outputs 1-2 years, outcomes 2-5 years, impacts 5-7 years. 3. If donors wanted to see some results, then CRP DS should name them quick wins, not IDOs 4. There was poor feedbacks (no mechanism) from bottom up, only fragmented communication from top-to down, with frequent changes in CRP DS approaches.
- More training of all actors involved in CRP-DS. Sometimes decisions were made at higher levels but explained explicitly to all involved in the impact path way of CRP-DS.

9. Selected Observations Based on Visits to Flagship Action Sites

Two members of the CCEE team, Merrey and McLeod, took responsibility for the field visits. Both had a one-day visit together to the former Jordanian site, which was dropped in 2015 as a result of budget cuts. This was useful for framing the questions and issues to be addressed in the future field visits. McLeod visited Action Sites in South Asia, specifically Rajasthan, India; while Merrey visited Action Sites in ESA (specifically, East Shewa, Ethiopia) and WAS&DS (specifically, Sikasso, Mali). The visits were well-organized and gave the CCEE team members ample opportunity to observe field activities and meet a range of stakeholders including farmers, and national and local partner institutions. Unfortunately the timing of the visits was not optimal: in all cases they occurred at the end of the dry season, i.e. shortly before rains were expected. Therefore, there were few crops growing and not much work underway. The CCEE Interim Report provides a detailed description of the major observations from these field visits (Merrey, McLeod and Szonyi 2015b); these are not repeated in full here. Rather, a few key observations are made.

In all three sites, there is important and interesting action-oriented field work being implemented in collaboration and with national partners and farmers. National partners include NGOs, research institutions, extension services, CBOs, and a few private firms. Most of this work involves experiments testing new, often multiple purpose, crop varieties (including agroforestry species), integration of multiple crops (for example pigeon pea and maize, field crops and tree crops), and soil and water management practices. In all three sites, farmers seem very interested and committed to working with researchers, even in cases where the results to date had not been spectacularly successful. In all the sites, committees that are labelled as “innovation platforms” are operating as a means for exchanging knowledge, sharing lessons, and planning interventions and experiments. In all three sites, there is work aimed at providing new opportunities for women and in some cases youth to improve their livelihoods. In all three cases, the partnerships with national institutions appear to be robust and effective, even though there is very little financial support provided to them. In all cases, there are substantial training and knowledge sharing activities underway. The research in all three sites is likely to have positive though not dramatic impacts on farmers’ productivity, resilience and livelihoods, and in many cases there is a reasonable possibility that the innovations will be scaled out at least in the immediate region. For example, through the Africa RISING project, the Mali researchers have collaborated with their local NGO partner to establish “technology parks”, intended to be permanent venues for demonstrating agricultural innovations.

Nevertheless, from a systems research perspective, some important issues also emerged. A major one observed in both African field sites visited is the problem of integrating the work of the CGIAR partners. In East Shewa, Ethiopia, it is only since the beginning of 2015 that the two main Centres, ICRISAT and ICARDA, have agreed to work in the same village sites. ICRAF, the third active partner, has more recently initiated a survey in these sites (but most of its funding is from a mapped project, which reduces its flexibility). Although ILRI is in principle a partner and is active in the region of the Action Sites, it is not involved in the Dryland Systems sites. In the Mali sites, inter-Centre integration seemed to be a continuing issue. The specific field sites and experiments visited each largely represented a single Centre’s work with the national partner. In discussions with the main NGO, the lack of inter-Centre collaboration was highlighted as an issue. In interviews, the CCEE was also told of instances in the Chinyanja Triangle (ESA) where farmers were being interviewed successively by different Centre scientists over a period of weeks, with no coordination. This problem was confirmed in group discussions at the second S&IM in Hyderabad in April 2015.

The fragmentation in both African sites and in South Asia (Rajasthan) seems to be a function of several factors: insufficient Windows 1&2 budget; dependence on bilateral projects which are dispersed to some extent and often focused more on implementation and not research; Centres’

reluctance to share budgets; and budget holders are in Centres, not at Flagship or Action Site Coordination level. These issues reflect a long-standing culture that has made inter-centre collaboration difficult (though not impossible): no clear incentives are built into the CRP structure to encourage integration. Finally, and perhaps more important, there is no overall vision and no clear intellectual leadership, i.e. there is no overall senior person with a broad "systems" perspective who could help create this vision. The CCEE suggests the CGIAR needs to consider strengthening incentives to discourage working separately and to encourage greater collaboration among CGIAR partners.

Another issue is the extent to which a "systems approach" is actually being applied, and the scale of the "systems" being researched. In the presentations of the Flagship programs at the Second S&IM in Hyderabad in April 2015, this question was raised for at least two of the presentations (ESA and WAS&DS and to some extent SA)[2]. In discussions with researchers during the field visits, to the extent they had a clear vision of what is meant by "systems", they clearly had a "farming systems" model, though it was largely implicit. The Ethiopia team was most articulate: they are aiming to improve farm households' livelihoods by integrating new food and forage crops and new varieties of traditional crops, including trees, with improved genetics and better management of livestock (mainly goats), better management of soil and water, and strengthening of value chains. There is a large potential for synergies among the various components, and for enhancing overall system productivity and resilience, for example through the introduction of new crops. Examples of the latter are improved mango and avocado varieties, new multi-use nitrogen-fixing legumes and their integration with maize, and growing more vegetables using water stored in small ponds to get through the dry season. However, most of the actual examples of experiments involve integration of two components; there are no efforts aimed at identifying ways to achieve larger-scale or game-changing results, i.e., changing the entire trajectory of system evolution. These observations apply equally to the West African and South Asian work (and probably the other Flagships).

This is fine as far as it goes, but when questions were raised about higher-level systems, for example the regional economy, catchments and watersheds, or food systems, there was agreement these higher levels are not being considered. The Mali farmers' main cash crop is cotton, for which there is a whole government-sponsored support system[3], but the CGIAR scientists did not seem to be examining how cotton and the food and fodder crops they are promoting might fit together more productively. In the African sites, the scientists stated that there is no overall CRP vision of the "dryland system" or "dryland system research" and no effort to identify and test integrated game-changing interventions[4]. In South Asia, the main issue with systems was that it was a new concept and staff were taking time to come to terms with the approach. Community led trials have the objective of improving long term productivity. In general, there is no sense of trying to do "transformative" research—game-changing research that would lead to new levels of sustainable productivity and improved livelihoods. This may now change with the initiation of the Overarching Flagship discussed below in section 2.7.3. Systems research is discussed in more detail below in section 4.3.

Impact pathways and ToC is another issue in all the field sites. None of the sites has an adequate impact pathway or theory of change; and none makes use of its existing impact pathway as a planning and management tool. There is no credible explicit set of impact targets and no strategy

[2] This observation is based on the Team Leader's notes and confirmed by the workshop report (PicoTeam 2015).
[3] la Compagnie Malienne pour le Développement des Textiles.
[4] Since the field visit, a workshop was held in Niger to build scientists' capacity for systems modelling (http://www.icrisat.org/newsroom/latest-news/happenings/happenings1695.htm#2, accessed 5 October 2015).

to achieve them in most of the field sites visited. Nevertheless, there is considerable potential for achieving important impacts, for example in WAS&DS through the Africa RISING project[5]. An important component of this Project is work on growing vegetables and improving nutrition, managed by AVDRC. Based on the three field visits, there is clearly strong local demand for work on vegetable gardens and nutrition, and for the expertise AVDRC brings to the program. The ToC and impact pathways are discussed in more detail below in section 3.4.

Although the "innovation platforms" observed by the CCEE team members are active, it seemed their functions are more limited than what would be expected based on the literature on innovation platforms (e.g. Klerkx et al. 2013; Swaans et al. 2013; 2014; Cullen et al. 2014). They are active, and probably function well for sharing information and lessons as well as planning experiments with scientists. But they do not have the full complement of potential participants (they are weak on private sector participation for example), and they do not seem to take the initiative in identifying problems and potential solutions and then testing those solutions. In addition, there are no links to policy makers in either the Ethiopia or Mali sites. The Ethiopia team claimed they would make this linkage only when they have clear results to share. The Mali team simply seemed not to have considered this dimension, reflecting perhaps their biophysical scientific background.

Related to these observations, all the teams are very weak in social and economic sciences (including gender analysis). Therefore, they will not be able to document in depth the processes of the platforms, adoption and rejection processes, and social impacts of innovations; nor are they able to do the kind of in-depth economic analyses needed. This is unfortunate as there is a growing literature on innovation platforms as an implementation strategy in an innovation *systems* framework, their challenges, and lessons learned. The CRP claims to have established 45 innovation platforms (Dryland Systems 2015e), but there does not seem to be a deep understanding of the concept and their potential for achieving game-changing results.

The WAS&DS Flagship has used a sophisticated analysis to identify its two transects, one based on a gradient of aridity and the other a gradient of population density. Considerable work went into establishing these gradients. They noted that an aridity gradient alone, as has been applied in other Flagships, is not adequate to capture the range of variation. They also noted that because of budget limitations, there are too few sites to represent the full range of variation. It was not clear to what extent there is integration and comparative analysis combining the two transects. This observation applies to ESA and indeed across the CRP: although discussed at the second S&IM, the CRP does not have a clear mechanism for integrative and comparative analysis across the field sites. The next sub-section discusses initial progress – the newly launched "Overarching Flagship".

[5] The overall USAID-supported program is managed by IITA and its ESA projects are mapped to Humid Tropics. The WA&DS work is managed by ICRISAT and mapped to Dryland Systems.

10. Efficiency: Governance and Institutional Arrangements

Lead Centre response to the ISPC review of the revised proposal

The CCEE has examined the comments from the ISPC review of the revised proposal submitted after the inception phase to assess the degree to which 'must haves have been addressed. Overall, the ISPC (2013) considered this version of the proposal a very significant improvement on the version reviewed by the ISPC in November 2011. Engagement with stakeholders was thought to be extensive and plans for continuing engagement sound. Advances were noted as having been made in developing the parameters for site selection. It was highlighted that improvements in drylands may be difficult to measure during the lifetime of the program as this phase was scheduled to be completed at the end of 2016. Specific comments relating to each must have are provided in Box 10.A.

Box 10.A CGIAR Research Program on Dryland Systems: ISPC "must haves"

Must Haves	Status
1. Characterization of dryland systems. The proposal must define dryland areas of the developing world using a water balance approach.	The ISPC[6] noted this 'must have' had been addressed through the biophysical and socio-economic details provided on the target regions and action sites which included climate, soil, land use, land degradation, water resources, farming systems, poverty, market linkages, and institutional support. It was noted that data was missing for Pakistan and it will not be an easy task to prioritize the key criteria that will allow the CRP to best measure its progress. The CCEE concurs with this view. Further, the CCEE suggests data is lacking to support priority setting and insufficient attention was paid to opportunities within the inception reporting. For example, it is evident in that only some action sites provide poverty head counts relevant to the target region. This is a key indicator for SLOs, as CRP 1.1 targets the poor and highly vulnerable populations farming the dry areas. Selection of sites, or activities, requires more than just site characterisation. *Ex-ante* appraisal of possible impacts on poverty, food security or natural resources should have been undertaken using fore sighting approaches to determine appropriate resource allocation. This type of analysis was to be part of CRP operations. Table 9. 'Elements of the CRP 1.1 monitoring and evaluation plan' of the extension proposal highlights priority assessment – based on analysis of expected impact and key assumptions involved was to occur every three years from inception workshop. This doesn't appear to have occurred, but should have occurred prior to, or during, inception.
2. Clear hypotheses as an organizing principle to prioritize the research and results agenda	The revised proposal was considered by the ISPC to meet this criterion if specific hypotheses that prioritise the research and results in each target region/action site were annexed to the proposal. Dryland Systems indicated that this was addressed at the first S&IM in June 30-July 4, 2014. Since that time, the Flagship Programs (FPs) have been aligned with agricultural livelihoods as opposed to geography and are developing research questions using an 'options x context' approach. The Inception Phase Report was highlighted by Dryland Systems as demonstrating standardized log-frames for linking outcome and outputs. The CCEE found impact pathways had been developed by FP teams. However, the link between input-outputs and outcomes still requires further clarity. The ISPC noted that delivery and theories of change were presented, but emphases process rather than what could be delivered. The development of the online M&E system that clearly specifies time dependant outputs should address this issue.
3. Provide criteria for choice of target areas and action	The ISPC concluded that this has been fairly well-addressed in the revised proposal Various levels of criteria were used to select sites. These are described in various sections of the revised proposal. Given these comments it is unclear

[6] ISPC Commentary on the revised proposal for CRP1.1 Drylands Systems Program, Version of 28 January 2013) (ISPC 2013).

sites in both the biophysical and social sciences	why ISPC again raised the issue at the recent Bogor FC 13 meeting, where it was stated "site selection in relation to the key research questions being addressed will be crucial for success"[7]. Priority setting at the site level has been based on scoring against contextual factors such as: Market access, Water / Land access, Poverty, Ethnic cultural, Gender, Access to partners, Local Government Participation, Family structure, Population Density, Farming systems, Welfare, Employment, Governance and institutions and Soil Water Holding Capacity and Fertility. As per commentary above, site characterisation and selection is in the view of CCEE a part of the consideration for research investment. Prioritisation should consider potential SLO benefits, scope for adoption, risks and external assistance. Given the reliance on bilateral funds in the portfolio donor considerations are a key factor governing resource allocation. Deployment of W1&2 funds should reflect the value add to bilateral available funds. These funds appear to have only been used to a limited degree to progress modelling systems approaches outlined in the extension proposal.
4. Refine site selection and characterization and prioritize activities to be carried out, working from impacts to activities	Much of the inception phase appears to have been spent characterizing sites for their agro-ecosystems and livelihoods. The ISPC concluded that although the quality and extent of the outputs from these workshops varied across regions most have adequately addressed site selection and characterization as well as prioritizing activities through a process from outcomes/impacts to activities. More analysis was required for South Asia and Eastern and Southern Africa regions. Dryland Systems noted that this was discussed at the first S&IM and the CRP Director has send out guidelines on the must have's for action sites. Since the first S&IM, the number of action sites has been reduced, interdisciplinary teams restructured, more focus given to an integrated systems approach and greater attention provided to hypotheses, outcomes and IDOs. There has been greater focus on pathways and barriers to out scaling. The CCEE note this work is on-going and needs greater attention. Field work suggests a lack of real integrated systems approaches across flagships and not much emphasis on testing hypotheses. Impact pathways have had mixed progress at field sites.
5. Provide detail on the underpinning science and agronomic, genetic, and farming system approaches to be evaluated once the first phase has progressed	The ISPC found that this criterion had been partially met through the information on underpinning science and approaches detailed in the target region/action site reports. It recommended the inclusion of this information in an Annex to the proposal. Work in this area was further progressed at Dryland Systems S&I meetings. The Dryland Systems CRP noted that a draft document was developed on defining what is meant by systems research and has been provided to the Independent Task Force (ITF). The extension proposal indicated systems work covered such areas as cropping system modelling, farm nutrient balance models, farm bio-economic modelling, coupled components models of land-use and ecosystem service change (integrated with soil erosion, hydrological and/or climate models), multi-criteria decision models for trade-off analysis, and agent-based community-landscape modelling. CCEE perception at the second S&IM was that these elements of systems thinking (unlike participatory approaches) are still developing within the Dryland Systems CRP and work streams are in their infancy. This was confirmed by field visits. The inability of Dryland Systems to recruit scientists with capacity in this field and the need to establish platforms and trials at action sites in the first years of the CRP has limited progress.
6. Provide a comprehensive theory of how social change will result from the livelihood, gender, and innovations systems approaches in the	The Theory of Change presented in the proposal was viewed by the ISPC as a scholarly account, but lacked quantification of outputs and outcomes. This 'must have' was viewed by the ISPC as being partly met. The CCEE concurs and also feels these details should have been included to a greater extent in the opportunities section of the Inception Report. As already noted, the CRP is using milestones and outputs used by CRP mapped W3/bilateral projects in its on-line M&E system. This is a very encouraging development. This needs to be further expanded to *ex-ante* assessment of impact to help with priority setting.

[7] Background paper for FC13 session on Dryland Systems.

current proposal	More emphasis should be given to this element of the mandate of the Integrated Systems Analysis and Modelling Group (ISAMG) and also create a work program with staff to be included in Flagship 1: Priority Setting & Impact Acceleration (Enabling Environment) team of the proposed Dryland Cereals and Legumes Agri-food Systems (DCLAS) CRP. The CCEE concludes that the CRP still does not have a credible "theory of change" and therefore its impact pathways are very weak – too abstract and difficult to operationalize.
7. Discuss current research priorities and how they affect new initiatives	This was rated by the ISPC as not being met. The inception report provided details about current ICARDA research priorities, but provided no description of lessons learned. It was recommended that an Annex be provided that lists how current research priorities from the other major CGIAR partners will inform and complement new initiatives. Dryland Systems has indicated that the prioritization will be continued through the ITF. It includes gap identification and identification of key partnerships. The CCEE concurs with the ITF providing overall guidance, but as above suggested above, personnel from ISAMG/ DCLAS Flagship 1 should compile data about external assistance and donor priorities, that are mapped in each region (given the dominance of the portfolio by bilateral funds), along with targeting by NARS as part of a rigorous gap analysis. This data can be derived from POWB templates and sector analysis in key actions site areas.
8. Identify clearly the research interventions proposed as a result of the diagnosis of the problems and constraints	The ISPC concluded that the assessments of "Must Haves 4 & 5" have also addressed "Must Have 8". ISPC should have provided a more concise list of 'must haves' if this is the case. Dryland Systems indicated that FPs are continuing to examine their research hypotheses using the guidance provided by the PMU and as part of IRT deliberations. These questions are posted online for each action site. ISPC noted that the specification of research activities was well defined in the North Africa & West Asia, Central Asia and West African Sahel & Dry Savannahs Inception Phase Reports.
9. Describe the framework for selecting external and centre partners, their respective research activities, and how these activities collectively contribute.	Documentation was provided that detailed Centre and external partners and their associated interventions or research activities. The ISPC indicated that the presentation of partnerships is very inconsistent and not comparable across target regions, along with no analysis being provided why certain partners were selected. The ISPC recommended that an analysis be conducted to map current partners, alongside a description of what is expected of them. Dryland Systems noted that existing partnerships and possible new ones will be determined by a prioritised research strategy and overarching FP under development with ITF assistance. The CCEE received a great deal of feedback that the CRP had too many partners, and/ or the expectations of various partners were not clear. Also, the reporting has not clearly defined the numbers and roles of ARI partners.
10. Differentiate the roles of the crop/commodity CRPs and this systems CRP	ISPC noted that the revised proposal contained useful information about how the CRP will interact with the crop/commodity CRPs. An annex was provided that details the nature of collaboration. Efforts associated with role differentiation are on-going. IRTS are asked why the POWB represents the best option which includes inputs about partner's legacy and other CRP linkages. Details about how the POWB reflects a systems approach and how it complements the gaps of existing efforts from current national activities and bilateral projects are also described. In WAS&DS, for example, the CCEE found some evidence of interactions with Dryland Grains, WLE, and CCAFS but it was not clear that Dryland Systems was playing its claimed role of integrating the research from these CRPs into a "systems" approach. Roles will be further defined as part of planning for the proposed DCLAS CRP.
11. Integrate available lessons learned from the Sub-Saharan Africa Challenge Program	The ISPC concluded that this criterion is likely to be met by the links made between CRP 1.1 and key players involved with the SSA-CP. It is not clear to the CCEE how far this has progressed, although innovation platforms have been established in all the regions. Aside from a member of the SC from FARA (who was not present at the April 2015 meeting), the CCEE found no evidence of substantive interactions with SSA-CP.
12. Develop a	The ISPC highlighted that the proposal did not include a logframe. They were

logical framework and articulate impact pathways to explicitly link a cluster of outputs to outcomes and impacts and SLOs	**noted as being developed during the Inception Phase; however, their quality varies considerably from region to region. This is still the case. A new logframe is planned to be developed with the ITF, as Dryland Systems notes it is waiting for finalization of the new Sustainable Development Goals (SDGs) expected by October 2015. It is not clear to the CCEE who within the ITF will provide this advice. Although the SDGs are still being developed, Dryland Systems should establish a logframe as soon as possible. Impact pathways reviewed by the CCEE do not clearly establish the logic between inputs, outputs, outcome and impacts.**
13. Include a performance management framework	**A Performance Management Framework has been established as part of the online MEL system. This will be refined as the logframe evolves. At the time of the proposal the ISPC noted that 'Must Have 13' has not yet been met. It is accepted that this remains work in progress and the ISPC assume that achievement of this will be monitored by the Consortium Board.**
14. Build climate variability resilience and sustainable dryland systems	**The ISPC agreed that this requirement had been met on 5th September 2012. It is not clear to the CCEE that this has been built into all Flagships, although the ESA Flagship has worked on resilience conceptually.**
15. Redefine management structure	**The ISPC agreed that this requirement had been met on 5th September 2012. The CCEE concurs.**
16. Broaden the focus of the proposal to include Latin America and South Asia	**The ISPC supported the geographical focus of the CRP 1.1 on 5th September 2012. Substantial activities are being conducted in South Asia but there is no budget for Latin American work.**

The ISPC recommended approval in February 2013 on the conditions that research focuses specifically on dryland systems and there would be further prioritization of activities, a greater focus on the ToC, better linking of outputs and outcomes and defining IDOs, improved partnership and gender capacity development strategies, improved interactions between commodity CRPs and Dryland Systems, and enhanced biodiversity and nutrition activities.

The Dryland Systems CRP official launch occurred in May 2013, in Jordan. Over the subsequent 12 months various coordinating bodies and committees were formed. IRTs have been functioning at the regional level since 2013 and have the role of determining regional research priorities and work plans. The role and effectiveness of these bodies are discussed in the governance Chapter (5). It is worth noting the first CRP director commenced in 16 June 2012 and resigned in December 2013. The Deputy DG for research at ICARDA acted as Director from January to July 2014. A second CRP director was recruited and officially commenced work in August 2014. ICARDA had to relocate during the inception phase due to the civil war in Syria. Overall effectiveness of governance was the subject of an audit by the CGIAR Internal Audit Unit (IAU) in late 2014 (IAU 2015). It made a number of recommendations. The results of this assessment are also outlined in the governance chapter and the current status of recommendation implementation documented.

There is a lack of clarity about the timing of the first and extension phases of the Dryland Systems, given an inception phase was undertaken and the Performance Implementation Agreement (PIA) covers the period January 2013 until December 2015. This has been compounded by the changing of CRP directors. The Fund Council granted funding for an "Inception Phase" as a "preparatory" or "project development" which was not regarded by ICARDA as full project implementation. Approval of the CRP was subject to submission of a satisfactory revised proposal. Interim management and governance arrangements were established once this had been achieved. An extension proposal was submitted 25 April 2014,

with responses from the CO and ISPC being received 14 July. The ISPC reviewed the proposal in light of the February 2013 approval conditions (ISPC 2014).

Gaps in Dryland Systems Extension Proposal – ISPC, CO and CCEE Views

The somewhat negative review of the proposal, and the Program as a whole, resulted in a special "Task Force" being recommended by the CO and established by the CRP. It first met in March 2015 as the CCEE was just getting underway. The ISPC has consistently questioned the adequacy of the Dryland Systems "theory of social change" and linkages to impact pathways, for example in its 28 February 2013 commentary on the revised proposal. The ITF has the objectives of identifying and prioritising mission critical activities that need to be resourced within the existing portfolio and, second, developing a coherent and strategically compelling case for Dryland Systems research that could form a core component of a new portfolio of CRPs (Dryland Systems Task Force 2015). Key issues raised about the Extension Proposal by ISPC and the CO and associated CCEE assessment are provided in Box 10.B.

Box 10.B Gaps in Dryland Systems Extension Proposal – ISPC, CO and CCEE Views

Gaps in the Proposal	Status
The CRP needs to include a plausible Theory of Change in the work plan. It does not present a clear indication of what research will be conducted and research appears to be local with very few outputs listed which could be considered as international public goods (IPGs).	**This issue has been consistently raised since the original CRP proposal. The CCEE agrees more needs to be done in terms of defining the logical path from research to impact, particularly quantifying credible assumptions and hypotheses across discovery, proof of concept, piloting and out-scaling phases. Using fore-sighting techniques, the relative merits of investing in differing action sites and activities can be described. This information can be used to prioritize the CRP portfolio. They should be explicitly considered in a fore-sighting[8] framework. Given the relatively small size of W1&2 funds, they should be used to create critical mass or fill gaps in addressing key dryland systems problems. Dryland Systems consideration of these aspects has been limited. However, priority setting is a key function of the IRT. As above, ISAMG/ DCLAS Flagship 1 should embark on a work program to address this issue immediately.**
The design principles for flagship programs in this CRP need to be laid out, as FPs should be addressing the research needs to solve the major constraints to agricultural production and resource stabilisation in the dryland areas. The adoption of regional "flagship programs" seems cosmetic and encompasses quite different collections of projects being done at the sites	**Feedback from the ISPC and CO highlighted that the CRP structure does not convey strategic thinking, identification of priorities and targeted deliverables. It is described as atomised research activities spread over far too many regions and systems with limited coherence. A review of the portfolio indicates that a third of activities in 2015 have an annual value of less than 15 thousand USD. Some are as low as one thousand. The PMU notes that financial monitoring is undertaken at a low level to ensure clear accountability, and analysis of critical mass should consider activity at the site level where multiple scientists are delivering several integrated outputs. The CCEE understand current reporting does not reflect the value of counterpart input and there is some integration at the action site. Field visits and discussions with stakeholders suggested research activities are spread too thinly and critical funding is not evident in many activities. There is a need to consolidate the portfolio into a smaller number of critically funded activities. Dryland Systems has taken steps to reduce the number of action sites, but further action is needed in the number of CGIAR partners, allocation of coordination funds and breadth of targeted activities. The ISPC highlighted that strategic choices have to be made by eliminating bilateral and regional support work which does not fit within**

[8] The Global Futures & Strategic Foresight (GFSF) project is designed to improve agricultural productivity and environmental sustainability, especially in developing countries. Fore sighting using a simplified IMPACT, or IFPRI DREAM model could be used for evaluation of promising agriculture technologies. See http://globalfutures.cgiar.org/, accessed 30 July 2015.

	the Theory of Change. The ISAC noted that limited rigour was associated with priority setting during Dryland Systems inception.[9] This was thought to be a result of each region being managed by a particular Centre that set research agendas for each site based on available capacities rather than which approaches are most appropriate to address objectives of the CRP. The current approach to priority setting based on contextual factors needs to be amended to consider greater weighting for alignment with SLOs, adoption factors, key risks and the external environment. Current scoring methods only partly help identify context- and system-specific entry and leverage points[10]. *Ex-ante* analyses, foresight, scenario-development and modelling are approaches that could be used in Flagship 1: Priority Setting & Impact Acceleration of DCLAS. The program has the role of providing evidence on R&D options with highest development outcomes for different contexts, set priorities for investment and aggregate impacts. Quantifying expected impacts among beneficiaries of R&D outputs and outlining the steps and costs for outputs to translate into outcomes will provide light on whether sites are selected based on clear hypotheses.
The ISPC is concerned with scientific critical mass and that insufficient emphasis is given to key research areas	The CCEE agrees that there has been insufficient capacity to undertake systems research. As already noted, systems involves approaches such as cropping system modelling, farm nutrient balance models, farm bio-economic modelling, coupled components models of land-use and ecosystem service changes, hydrological and/or climate models, multi-criteria decision models for trade-off analysis and agent-based community-landscape modelling. The PMU has recently been expanded to accommodate a systems expert. There needs to be further efforts to increase the staff with international expertise in this field, although this is acknowledged as a challenge given limited numbers of people with these skills. In addition, the CRP's social and economic sciences capacities need to be strengthened. ISPC believes that this needs to be addressed through the CRP's partnership strategy. Large meetings are not viewed by the CCEE as the most effective means of systems action learning. The CCEE feels greater in-house capacity is needed to develop scientific critical mass and intellectual leadership within Dryland Systems communities of practice. Fractional long term appoints could help with the constraint of attracting scientists to Dryland Systems sites. In addition, the CRP could make more effective use of Advanced Research Institutions (ARIs), including joint supervision of Ph.D. students and post-doctoral fellows.
Dryland Systems is currently organized in five regional FPs which do not appear to have been strategically designed. Rather, they come across as merely a collection of different on-going projects in each of the sites. No rationale is provided for the choice of the five regions where Dryland Systems works,	Dryland Systems has recently adopted a three ALS approach based on agri-pastoral/pastoral, irrigated and rainfed systems. The ISPC suggested this structure would be better for focusing research effort across defined value chains increases the chances of outcomes through agriculture interventions. The CCEE found mixed opinions about this approach amongst CGIAR staff. Some felt the move to ALS-based research would undermine the interdisciplinary efforts at each site, while some questioned the relevance of experience gained in Asian or African sites at reciprocal sites in each region. The 3-ALS model was considered by some to be a highly simplified abstraction of the realities on the ground; they do not constitute "real" systems. The inability of the CRP to mobilise systems capacity is felt to be a more acute constraint than flagship alignment. Systems thinkers could have been mobilised through communities of

[9] Reflections on Drylands (CRP1.1) by the Independent Scientific Advisory Committee, November 29, 2013 (Lynam et al. 2013).
[10] Generic Impact Pathway through Integrated Systems Research in-development Approach (draft only, to be continuously reviewed and approved by RMC or SC). Prepared by Q.B. Le and reviewed by R. Thomas March 8, 2015.

leading the reader to conclude that opportunistic reasons probably prevailed.	practice in the global program organised by geography or ALS. As above, new approaches to attracting limited systems global expertise is required. Embedding longer term (possibly fractional) staff in flagships would likely provide more meaningful action learning and the sustained input required to extend systems skills.
Dryland Systems has no supporting global FP that provides guidance, tools and methods and draws lessons from the work in the five regions, bringing together the work and results of the regional FPs. No central link is provided either to ensure that each of the FPs plan effective gender-responsive programs, and deliver results on gender using a common strategic plan.	ISPC noted that the Extension Proposal provides details about FP activities and phases and outputs/outcomes, without a specific crosscutting activity or even a FP for cross-program learning mechanisms. The development of ALS-based research programs and communities of practice are being embarked upon to address this issue. A global or "Overarching" program has been established with gender, youth, systems, communications, and capacity development themes.
An annex details outputs but they are relatively modest, dispersed and without an integrating framework	CO and ISPC feedback of the proposal seem to diverge on this point. The ISPC notes IDOs of resilience, wealth and well-being, food access, natural resources management, gender empowerment and capacity to innovate were identified, along with Table 2 listing Year 2025 targets and indicators. Although generic in nature Dryland Systems was commended for making a case for impact by quantifying outputs and outcomes and defining IDOs as requested by the ISPC. The CCEE commends Dryland Systems for efforts developing the M&E platform. However, the CCEE feels outcome and impact expectations are overly optimistic.
Explicitly state what the added value of Dryland Systems at CRP portfolio level actually consists of, given all the breeding work undertaken by other CRPs.	The CCEE agrees with ISPC that the CRP needs to put more effort into clearly distinguishing itself as a dryland *systems* CRP. The need for attracting staff with expertise in this area is outlined above.
Define and explain the scientific complementarity and practical interaction with other CRPs.	ISPC noted the Extension Proposal describes Dryland Systems linkages with other CRPs but it is not clear whether some of the linkages are active or not. The Annual Report 2013 notes that outputs from some commodity CRPs are being used but are not yet embedded in joint-systems-based activities. These linkages are being further formulated in the DCLAS proposal.

Sources: ISPC Commentary on the extension proposal for CRP No. 1.1 Dryland Systems (DS) for 2015-2016 and CO Comments to CRPs regarding 2015-2016 CRP Extension Proposals.

Audit Report Recommendations and Their Status

The following boxes summarize the recommendations of the IAU on governance, management and financial management, and also the CCEE assessment of the CRP's response.

Box 10.C Key Audit Governance and Management Recommendations and their Status

Audit Recommendations	Status (CCEE assessment)
The SC ToR should be strategic in nature reflecting IEA CRP Governance and Management Review guidance focusing on the outcomes of the CRP, including the progress of the activities (work streams),	A ToR was developed and approved by the Steering Committee in December 2014, along with being revised and endorsed by the CO Chief Science Officer and the CEO. ISC meetings are being conducted twice a year, prior to the Lead Centre Board meeting. This

authorising budgets and monitoring progress. ToR should be approved by the Lead Centre and agreed with the CGIAR Chief Science Officer.	timing was suggested so that the Board could approve the POWB. Direct observation by the CCEE at the ISC meeting in India 2015, was that of a functioning ISC focussing on outcomes, progress of activities, authorising budgets and monitoring progress. ISC members expressed satisfaction with ISC operation at the end of the meeting. Late provision of background materials was noted as the only minor issue.
Membership should be limited to 7 to 9 as this accentuates responsibility. The Chair should be a Lead Centre. Members of other committees (RMC and ISAC) must not be members of the SC and the Lead Centre DDG Research and the CRP Director should be considered as members. Persons from partner organisations with systems project experience could well add a valuable perspective to the SC. A range of CRP personnel were recommended to be 'in attendance'	ICARDA agreed with this recommendation, however, noted that the Lead Centre DDG Research should participate in the RMC, rather than the Steering Committee. The ISAC was merged with the SC forming an Independent Steering Committee (ISC) in December 2014 following the IEA review of CRP Governance and Management. An ITF was subsequently recommended by ISPC and adopted by Dryland Systems. This body has similar function to the ISAC. The CCEE witnessed attendance of recommended PMU personnel during the ISC in India, March 2015.
The Research Management Committee (RMC) determines priorities for and manages the research agenda. The IAU recommended it's ToR be amended so Project Management Unit Coordinators are in attendance, the CRP Director have authority to hire key individuals, evaluate the performance of all members, and terminate the membership (if necessary) of all RMC members. The RMC should be given the authority to evaluate the performance of the Centres and the specific individuals working in their area and adjust budgets in accordance with such performance.	The RMC ToR was finalized and approved at the SC meeting in December 2014. The CCEE observed PMU Coordinators being in attendance at the RMC meeting in India in April 2015. Recommendations were made to the ISC for approval of next year's plans. The RMC reviewed performance; however, the mechanism for approval or non-approval of agenda items was not clear to RMC participants. At the later stages of the RMC meeting, it was stated that items/ recommendations are adopted on a non-objection basis. It appeared to the CCEE that the CRP Director does not have sufficient authority to change resourcing of centres based on Centres' performance. The management survey conducted by the IEA governance review (Robinson et al. 2014) found only five of 15 CRP leaders agreed that they have adequate authority to manage and lead the CRP and recommend changes in research priorities to achieve desired results. Therefore, this issue is not limited to this CRP. Rationalisation of flagships following funding cuts appears to have been conducted by the PMU with limited consultation with IRTs.
The IAU recommended activation of RSAC's or equivalent should be considered. They encouraged the ToR for these teams to be presented at the next meeting in November 2014	The CRP noted that IRTs are functioning bodies at the regional level and have TORs that were prepared and approved in December 2014 by the SC. IRTs decide on the budget allocation in each region with a proper bottom-up participatory approach. Minutes were provided to the CCEE, which show this planning process. No direct observation of IRTs was possible by the CCEE.
Finalise the PMU Terms of Reference and get it approved at the Steering Committee.	In response the ICARDA note that the PMU ToR and operational guidelines were prepared and approved by the 4th SC
Fill the staff positions on the PMU and locate the team in Amman with the CRP Director. Develop job descriptions for each position and objectives for each team member set for the year ahead	TORs have been prepared for PMU positions and approved at the 4th SC meeting. They are documented in Dryland Systems (2015k). Communication, gender, M&E and system research positions have been filled.
The CRP Director as overseer of the PMU	In response, ICARDA note that the CRP Director has

should have the authority to hire, evaluate the performance of, and terminate all PMU staff members	that authority through the annual performance evaluation process to hire, evaluate the performance of, and terminate all PMU staff.
The TOR of the Independent Science Advisory Committee (ISAC) should be reviewed, finalised and approved by the SC.	The SC and ISAC were combined into a single Independent Steering Committee, as per recommendations of the IEA CGIAR Research Programs, Governance and Management. Review (Robinson et al. 2014 and its TOR was approved in December 2014 by the 4th SC.
The CRP Program Director should re-examine all bilateral projects that are currently mapped to the CRP in order to determine whether, on a cost/benefit basis, they should indeed be mapped to the CRP in that they will directly contribute to the planned CRP outputs	The CRP agreed with this recommendation and bilateral project guidelines have already been drafted and circulated to the RMC as requested during the 2nd RMC meeting. They will be submitted to the 2015 ISC for approval. They were developed in the absence of CO guidance. The CCEE believes view the CO should lead this guidance.

Box 10.D Audit Financial Management Recommendations and their Status

Audit Recommendations	Status (CCEE observations)
Funds disbursed to the Lead Centre of the CRP are being directly received and comingled with non-CRP related Lead Centre funds. This is at odds with obligations stipulated in the Program Implementation Agreement (PIA) between ICARDA and the Consortium.	ICARDA did not support this recommendation as late release of W1&2 funds require the Centre to pre-finance activities of the CRP. The IAU requested the CO to examine clauses 1.2 (b) and 1.3 of the PIA given time delays on disbursement.
Fund flows from the Lead Centre to Participating Centres do not adhere to the PPA in that they are not disbursed "upon receipt of funds from the Funds Office".	ICARDA agreed that it should abide by the obligations in the PPA. Transfer difficulties are problematic due to financial sanctions associated with civil unrest in Syria. ICARDA uses off-setting arrangements with other Centres to practically deal with this issue. In response to the IAU ICARDA stated it had not received complaints of late payments from partner Centres. The CCEE has received a complaint from one centre.
CRP management should implement a system to maintain oversight over the flow of CRP W1&2 funds	ICARDA agreed to implement a system to maintain oversight over the flow of CRP W1&2 funds. This has been achieved by the appointment of a finance program coordinator to the PMU.
The appointment of a financial coordinator to the PMU with no responsibilities into the Lead Centre adds to the independence of the PMU in ensuring management accountability of CRP funds flow and disbursements	ICARDA agreed to the appointment of a Finance Program Coordinator. However, this position was noted by ICARDA as having a reporting responsibility to the Director of Finance of the Lead Centre. ICARDA appointed a Financial Program Coordinator who has reporting responsibility to the Director of Finance of the Lead Centre. She is currently located in Beirut. The PMU prefers that a full time financial program coordinator be located in the PMU office in Amman.
Establish a policy such that the Consortium will not allow the disbursement of Windows 1 & 2 funds unless there is an approved work plan with specified individual activities, costed under heads of labour, equipment, travel expenditures, etc. to be reviewed by the PMU and the Lead Centre.	There appears to be limited system-wide guidance on this issue. The CO stated that policies and procedures will be prepared for the 2nd Call. It was noted that the forthcoming CCEE review of CRP 1.1 should include an assessment of the scope of the deliverables of the CRP given the current and projected levels of funding. An assessment of POWB pre and post the current cuts was undertaken by the CCEE. ICARDA is currently working on implementing a system to maintain oversight over

	the flow of CRP W1&2 funds.
Establish a delegation of authority structure whereby the Program Director of the CRP, supported by a CRP Finance Officer, maintains ultimate control over the allocation of expenditures, including Windows 1, 2, 3, and Bilateral, to the CRP.	ICARDA agreed, but noted that this should be a policy applied across all CRPs. The Program Director appeared to the CCEE to have significant control over Windows 1&2 allocations, pre- and post-funding cuts. W3 and bilateral project control still appears to be weak. Greater guidance is required on this issue from the CO.
Establish a control process at the PMU whereby the overhead rates charged to CRP 1.1 by participating Centres are reviewed and monitored. This should subsequently be reported to the Steering Committee and the Lead Centre Board of Trustees and the Consortium.	ICARDA agreed that the PMU needs to review and monitor the overhead rates charged to CRP 1.1. Audited accounts for 2012 show ICARDA had an indirect cost rate of 14.7%, compared to an average of 16.79% for all participating CG centres. Other issues identified in the IAU report included charging rates on monies passing through to other partners and indirect cost recovery rates for bilateral project agreements. The IAU recommended that the CO should update FG5 to provide guidance on the subsidy of bilateral project overhead by CRP. The CCEE concurs.
Implement a system such that the PMU will review payment of Cost Sharing Percentage (CSP) by Centres on all bilateral projects mapped to the CRP in order to ensure compliance with the legal agreements.	ICARDA agreed that compliance with Section 4.11 of the PPA is ideal. Strict compliance was thought to overly restrict Centres from mapping W3 and restricted projects which are relevant to CRP1.1 because of donors' inability or unwillingness to pay the CSP. As above, CO guidance is required.

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Dryland Systems

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