

AGRILINKS



Overcoming Gender Barriers to Accessing and Using Climate Information Services

Speakers: Krista Jacobs, USAID Bureau for Food Security;
Elizabeth Bryan, International Food Policy Research Institute;
Kristin Lambert, Mercy Corps; Tatiana Gumucio, Columbia University

Moderator: Julie MacCartee, USAID Bureau for Food Security

Date: April 25, 2017

Krista Jacobs, U.S. Agency for International Development



Krista Jacobs is the Senior Gender Advisor in USAID's Bureau for Food Security, which coordinates Feed the Future. She is a development economist whose work focuses on gender, food security and assets. Current and recent work includes advising agricultural projects on gender integration, program evaluation, developing methods to measure men and women's land and asset rights, building gender capacity of community-based programs, and building the monitoring and evaluation capacity of local civil-society organizations. She has focused her work in East and West Africa. Dr. Jacobs holds a PhD in Agricultural and Resource Economics from the University of California, Davis.

Kristin Lambert, Mercy Corps



Kristin Lambert is Mercy Corps' Program Manager for Climate Change and Resilience Research on the Research & Learning team. In this role, she provides technical and programmatic support to grants focused on Climate Information Services and resilience learning. Prior to joining Mercy Corps, Kristin worked throughout sub-Saharan Africa on natural resource management, conservation and policy, including over three years in Liberia. She holds a Master's in Environmental Management from the Yale School of Forestry & Environmental Studies and an MPP from the University of Virginia.

Elizabeth Bryan, International Food Policy Research Institute (IFPRI)



Elizabeth Bryan is a Senior Research Analyst in the Environment and Production Technology Division at the International Food Policy Research Institute (IFPRI) where she conducts research on sustainable agricultural production, natural resource management, small-scale irrigation, climate change adaptation and gender. Prior to joining IFPRI, Elizabeth worked as a consultant for the Poverty Reduction Group of the World Bank and the Latin American Program of the Woodrow Wilson International Center for Scholars. She has published numerous articles on climate change adaptation, gender and climate change and trade-offs in biomass energy uses in sub-Saharan Africa. Elizabeth holds an M.A. in International Development with a concentration in Development Economics from American University.

Tatiana Gumucio, International Research Institute for Climate and Society, Columbia University



Tatiana Gumucio is a Postdoctoral Research Scientist at the International Research Institute for Climate and Society (IRI) at Columbia University in New York. At IRI, Tatiana is involved in investigating the causes of gender differentials in access to and use of climate-related information; and the factors and conditions that can contribute to gender-transformative climate information services. Previously, she worked on the development of stakeholder engagement strategies to support policymakers to integrate gender in climate change adaptation and mitigation policies in Latin America. She received her Ph.D. and Master's in anthropology from the University of Florida.

Outline

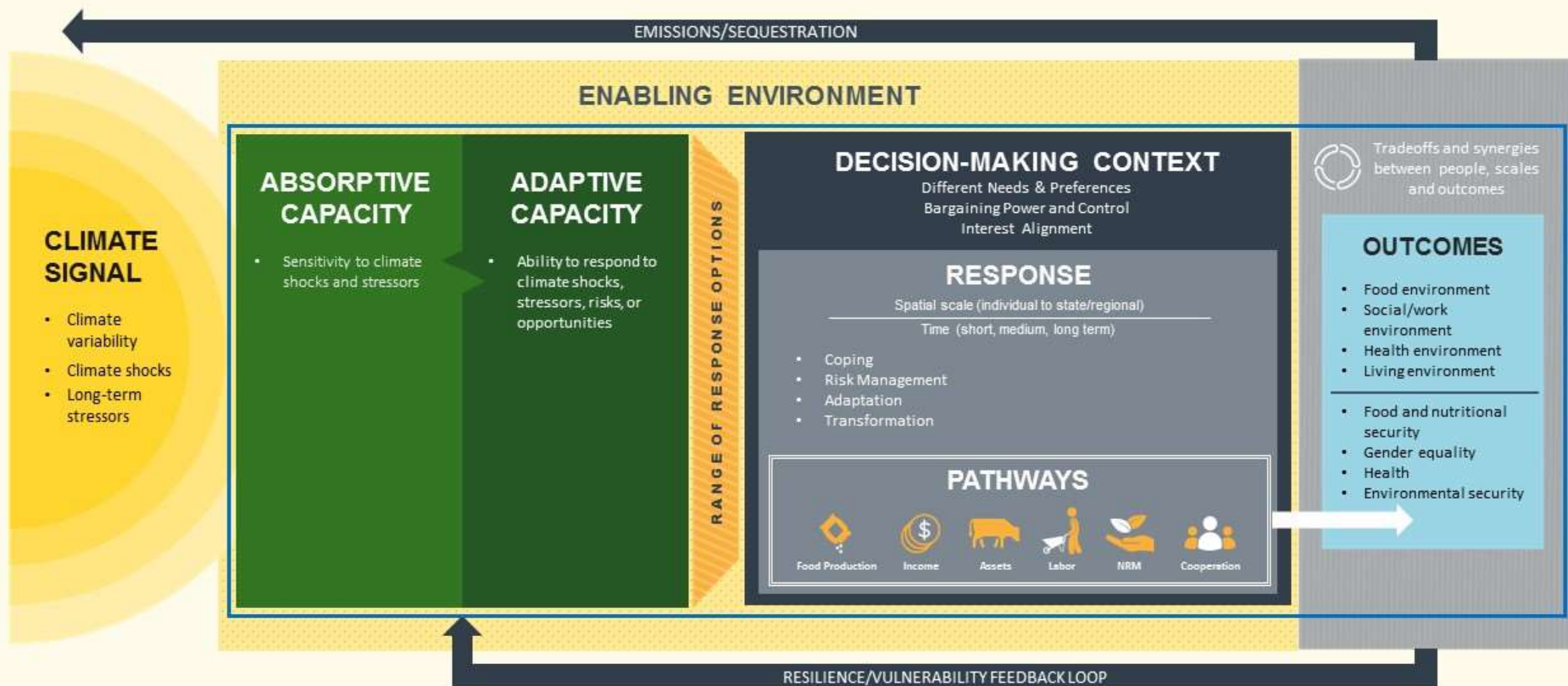
- Why do we care about gender and nutrition in the context of climate change?
- Overview of gender-climate change linkages using the Gender, Climate Change, and Nutrition (GCAN) Framework
- How does climate information fit in?
- What do the data show?

Why Care About Gender and Nutrition in the Context of Climate Change?

- Ensure social inclusion and gender equality: *who is adopting and benefitting from CSA and who is not?*
- Mitigate potential harm: *how can we catch and reduce unintended negative consequences related to gender and nutrition?*
- Enhances CSA effectiveness and impact: *How can we maximize the contribution of both men and women?*
- Achieve co-benefits/other development outcomes: *how will CSA maximize nutrition benefits through health, diets, and care?*

Gender Climate Change and Nutrition Integration Initiative (GCAN) Framework

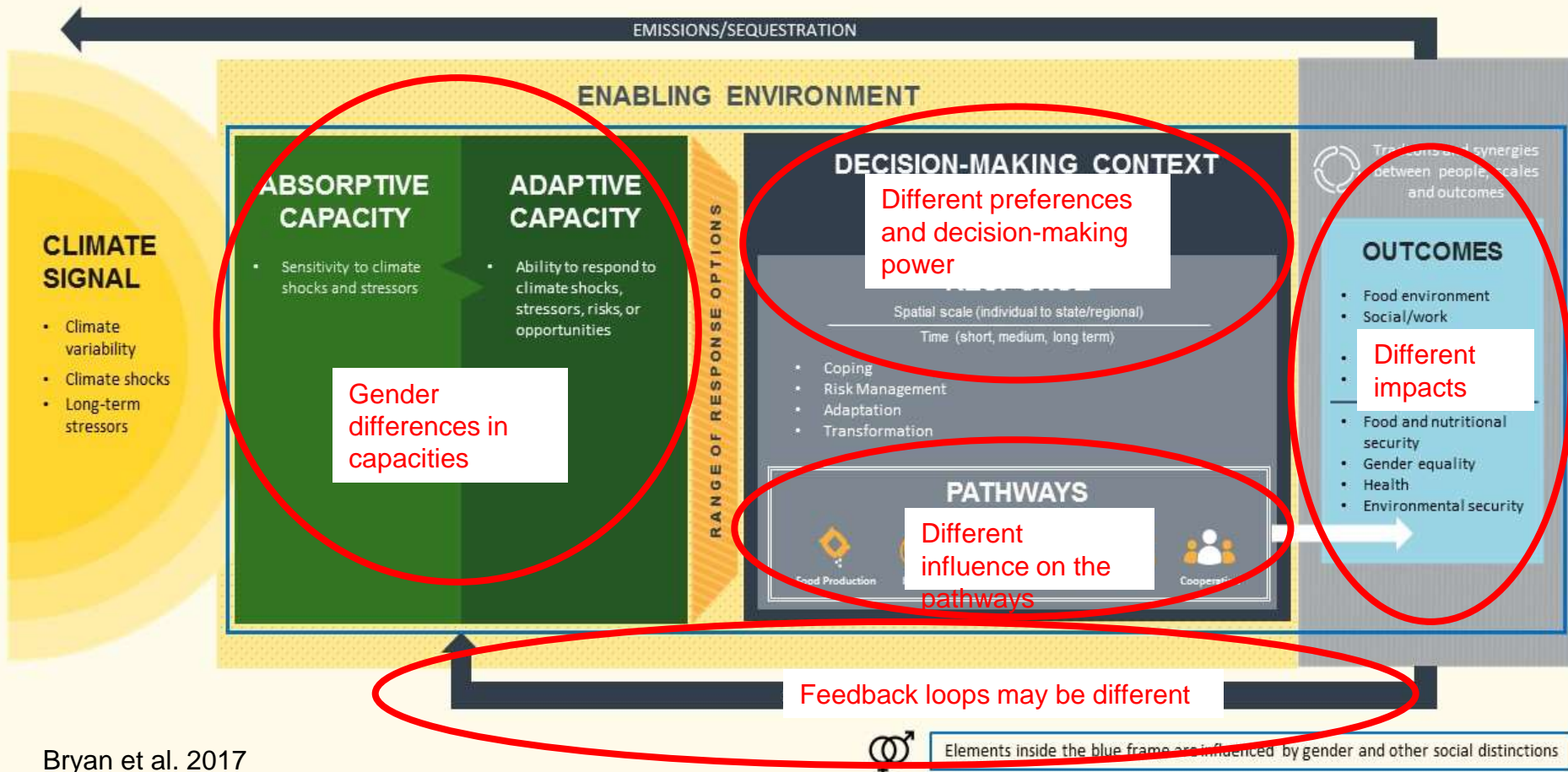
Framework for Climate, Gender, and Nutrition



Elements inside the blue frame are influenced by gender and other social distinctions

Where is Gender in the Framework?

Framework for Climate, Gender, and Nutrition



Bryan et al. 2017

Climate Information is Essential for Adaptation

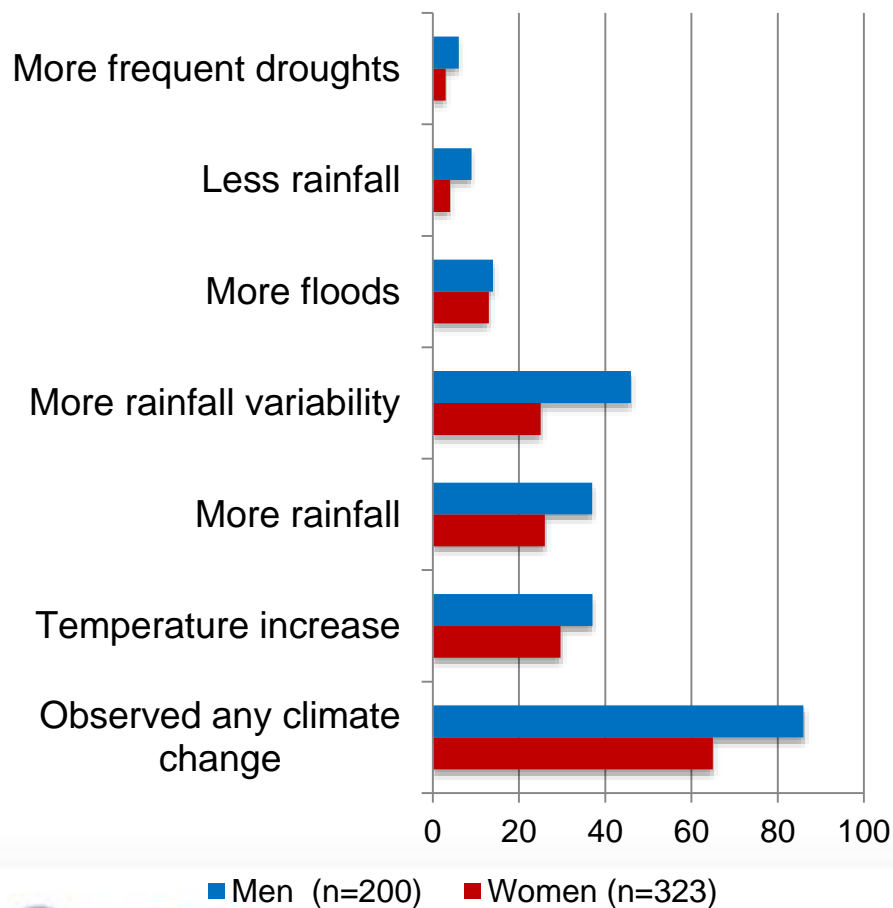
- Many factors influence men and women's *ability to respond* to climate shocks or stressors
 - **ASSETS:** Access to and control over assets (including natural capital)
 - **INFORMATION:** Access to information about climate change and the different available options to respond to shocks and stressors.
 - **PERCEPTIONS:** How do perceptions and knowledge of climate stressors, shocks, and risks vary between groups? Which types of impacts do people prioritize for managing risk? What knowledge do people have on the risks and possible benefits of different response options?
 - **LABOR:** Access to labor (own, family, or hired) required to pursue certain response options?
 - **INSTITUTIONS:** E.g. ability to participate in groups, social norms influencing the ability to respond to climate change (e.g. mobility, acceptability of response options), land tenure institutions
 - **DECISION-MAKING CONTEXT:** Level of influence over decisions to meet individual needs and preferences

What Do the Data Show?

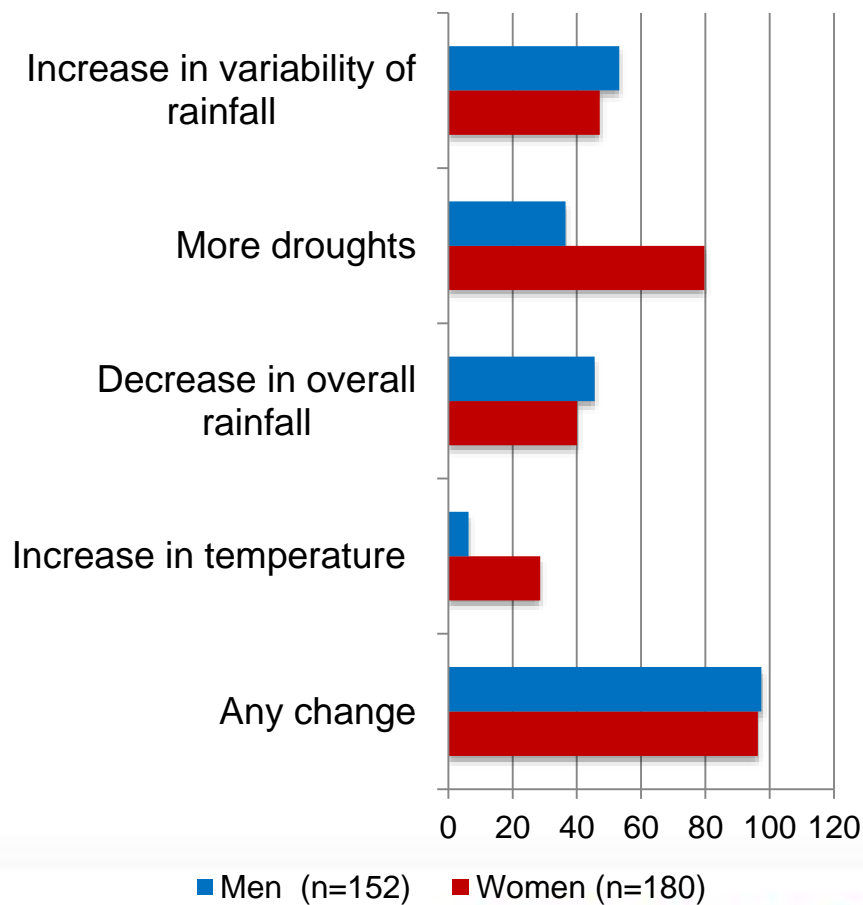
- Intra-household gender-climate change survey in selected CCAFS sites in Bangladesh, Kenya, Senegal and Uganda
- Builds on ILRI's comprehensive, plot-level farm characterization survey (<https://dataverse.harvard.edu/dataverse/CCAFSbaseline>)
- Same questions asked of men (n=~200) and women (n=~200) in each household and site

Men and Women Perceive Climate Change and Shocks Differently

Kaffrine, Senegal



Rakai, Uganda



Women Have Less Access to Information Sources

	Nyando, Kenya		Wote, Kenya		Rakai, Uganda		Kaffrine, Senegal	
	Women	Men	Women	Men	Women	Men	Women	Men
Extension agents	40	42	98	99	30	67	2	12
NGOs	68	64	84	67	31	68	8	24
Community meetings	38	63	97	99	24	45	8	17
Farmer organizations	36	13	30	11	12	36	1	1
Religious groups	42	32	55	44	36	31	13	14
Agri-service providers	16	7	67	18	12	40	6	15
Family members	93	79	97	99	52	73	83	68
Neighbors	82	94	99	99	91	95	80	79
Radio	96	99	99	100	86	98	85	88
TV	15	45	5	15	2	14	10	8
Newspaper/bulletin	6	27	2	11	1	34	0	1
School	16	28	2	9	4	14	0	0
Cell phones	6	28	2	2	6	12	1	4
Internet	0	11	1	1	0	0	0	0
Traditional knowledge	81	93	91	90	74	75	88	94
Agricultural shows	3	11	4	11	1	20	0	0
Farmer field schools	8	11	57	41	6	12	0	0

Women have less access to information sources

KEY: Highlighted differences are statistically significant at the 10% level

Men more likely to have access to information source

Women more likely to have access to information source

Women Are Less Aware of CSA Practices

	Nyando, Kenya		Wote, Kenya		Rakai, Uganda		Kaffrine, Senegal	
	Women	Men	Women	Men	Women	Men	Women	Men
Agroforestry	52	76	98	100	98	98	93	95
Terraces/bunds	60	81	100	100	100	100	20	45
Water harvesting	39	72	94	95	58	93	7	26
Irrigation	72	77	85	92	100	100	90	94
Zai/planting pits	11	14	37	25	19	21	0	3
Crop residue mulching	94	88	96	97	100	99	44	66
Composting	20	43	27	48	97	96	10	47
Manure management	88	88	93	85	89	96	65	71
Efficient fertilizer use	64	73	12	35	53	86	60	80
Improved HYVs	85	62	94	99	96	98	29	67
Improved STVs	18	11	99	99	85	73	2	15
No/min tillage	56	72	7	34	96	54	54	67
Improved grain storage	56	48	98	98	82	98	46	48
Improved stoves	60	74	88	96	99	99	81	66
Improved feed management	33	39	68	74	88	92	34	50
Destocking	27	28	69	63	86	79	38	47
Cover cropping	40	24	13	4	6	25	28	39
Stress tolerant livestock	14	10	53	30	68	73	8	20
Rangeland management	20	5	31	2	76	99	30	41
IPM	6	4	0	5	83	77	1	6

Women less aware of climate-smart practices (%)

KEY:
Highlighted differences are statistically significant at the 10% level

Men more likely to be aware of practice

Women more likely to be aware of practice

Source: IFPRI-CCAFS intra-household survey.

When Aware, Women Are As Likely to Adopt Practices

	Nyando, Kenya		Wote, Kenya		Rakai, Uganda		Kaffrine, Senegal	
	Women	Men	Women	Men	Women	Men	Women	Men
Agroforestry	33	25	70	93	90	93	96	95
Terraces/bunds	45	41	95	98	56	60	34	23
Water harvesting	37	22	28	31	30	8	4	0
Irrigation	21	14	9	10	21	29	6	6
Zai/planting pits	48	26	6	7	11	17	0	20
Crop residue mulching	92	67	75	87	100	95	85	82
Composting	63	24	28	30	33	21	16	10
Manure management	79	57	85	84	57	72	96	96
Efficient fertilizer use	60	56	0	13	34	50	80	74
Improved HYVs	87	82	91	99	22	56	78	59
Improved STVs	60	30	92	99	55	60	67	45
No/min tillage	47	18	8	0	21	48	58	50
Improved grain storage	32	18	66	49	62	48	70	67
Improved stoves	36	34	29	35	37	33	14	17
Improved feed management	42	23	65	36	71	22	83	88
Destocking	43	29	40	25	32	10	20	16
Cover cropping	60	48	38	0	17	5	85	65
Stress tolerant livestock	43	50	47	65	2	13	0	20
Rangeland management	78	33	41	33	5	1	57	55
IPM	33	14	0	78	75	29	100	83

When aware, women as likely to adopt climate-smart practices (%)

KEY:
Highlighted differences are statistically significant at the 10% level

Men more likely to adopt practice

Women more likely to adopt practice

Source: IFPRI-CCAFS intra-household survey.

Conclusions

- Intra-household survey data show differences in the ways that men and women perceive climate change and respond to climate change.
- Constraints vary across contexts but access to climate information is often a barrier for women.
- More work needed to mainstream gender into implementation of CSA into programs/projects.
 - In particular, need to ensure that information reaches women and meets their needs.
- Addressing gender gaps in climate change information potentially has large payoffs through increasing uptake of appropriate response options.

Outline



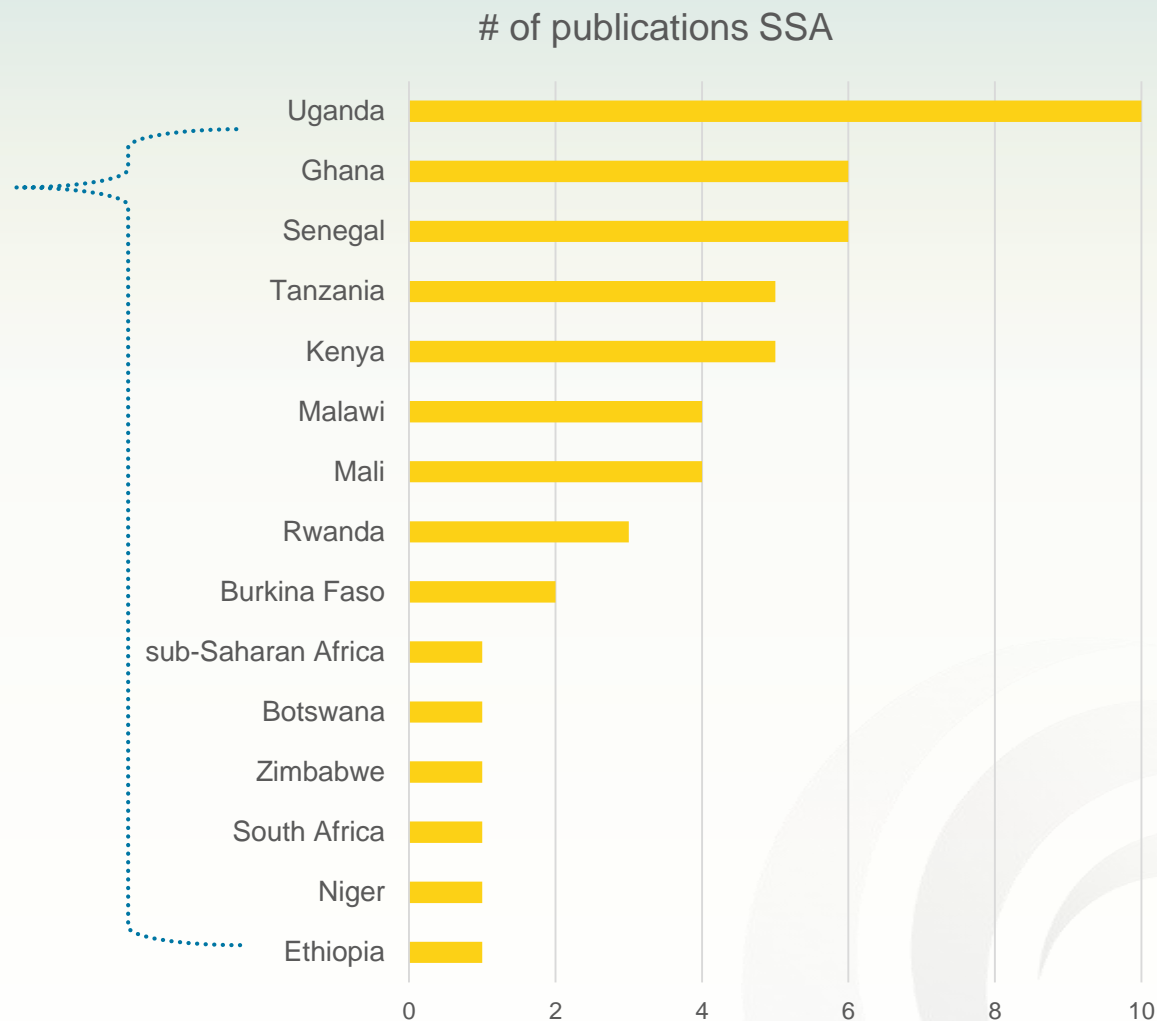
RESEARCH PROGRAM ON
Climate Change,
Agriculture and
Food Security



- I. Publications reviewed
- II. Access
- III. Use
- IV. Conclusions

Publications reviewed

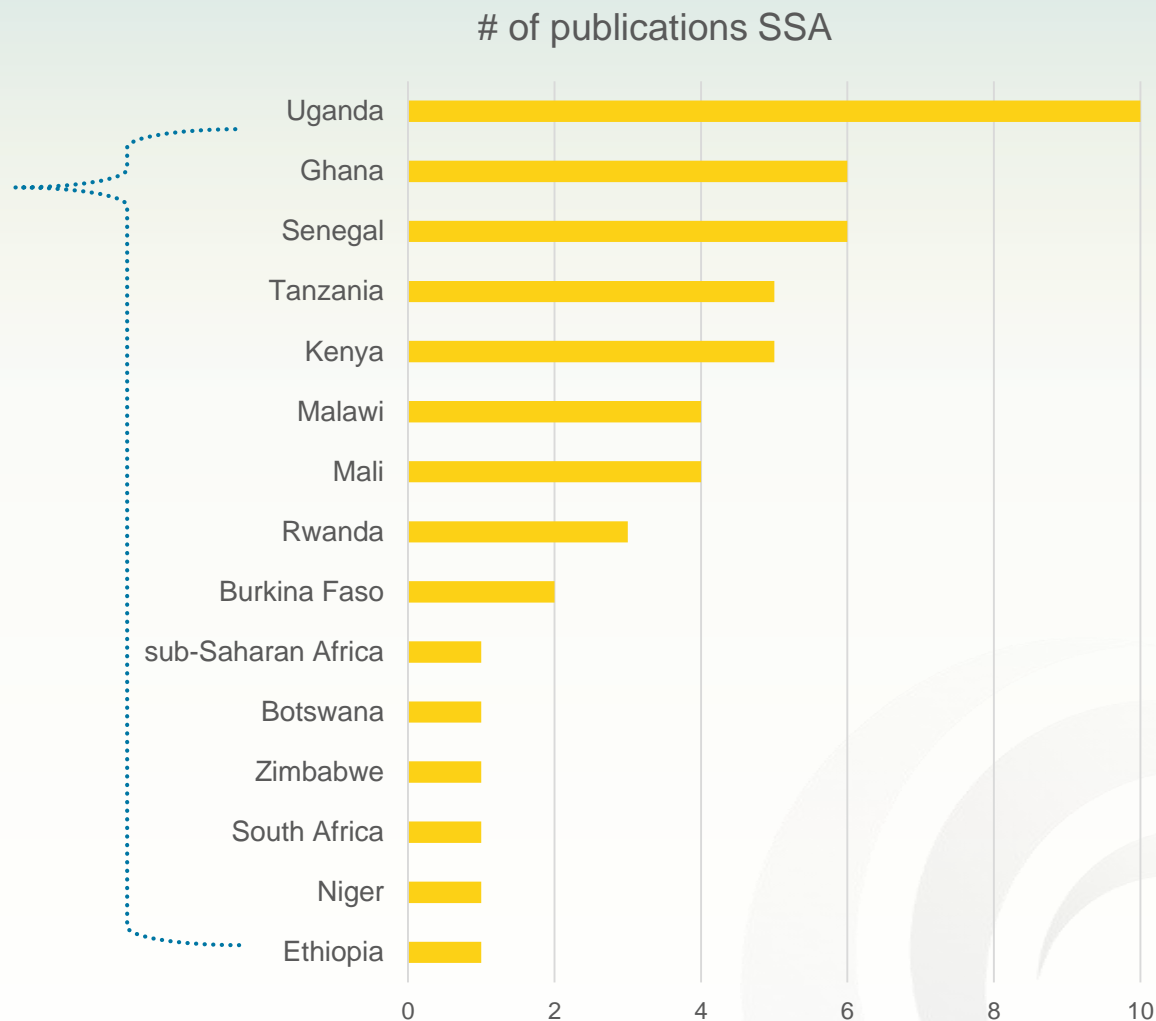
Total # of publications	39
Sub-Saharan Africa	34
South Asia	7
Northeast Africa	1
Oceania	1



Publications reviewed

Total # of publications	39
Sub-Saharan Africa	34
South Asia	7
Northeast Africa	1
Oceania	1

Access	29
Use	19
Benefits	4



Study	Location	Sample size		Weather forecast		Seasonal forecast		Onset forecast		Pest, disease early warning		Extreme event forecast		Drought early warning		Historical data	
		W	M	W	M	W	M	W	M	W	M	W	M	W	M	W	M
Twyman et al., 2014	Nyando, Kenya	200	200	45%	75%	40%	80%	91%	91%					70%	85%		
	Wote, Kenya	175	176	36%	41%	92%	88%	98%	97%					43%	92%		
	Rakai, Uganda	187	155	37%	91%	80%	81%	73%	83%					64%	78%		
	Kaffrine, Senegal	323	200	55%	61%	64%	67%	65%	83%					20%	23%		
Coulibaly et al., 2017	Eastern province, Rwanda	396	318	23%	28%	32%	38%	30%	38%	7%	9%	15%	24%	20%	26%	5%	2%
	Kigali province, Rwanda	161	144	7%	17%	20%	28%	4%	14%	2%	6%	2%	11%	3%	7%	0%	0%
	Northern province, Rwanda	235	274	9%	14%	16%	22%	15%	21%	5%	5%	9%	14%	9%	5%	3%	4%
	Southern province, Rwanda	410	398	5%	9%	16%	27%	16%	25%	6%	10%	12%	20%	9%	9%	0%	2%
	Western province, Rwanda	390	320	9%	18%	13%	24%	16%	26%	6%	11%	13%	21%	6%	12%	2%	4%
Coulibaly et al., 2015a	Kiteto district, Tanzania	NA	NA	14%	9%	15%	9%	42%	38%	10%	9%	43%	38%				
	Longido district, Tanzania	NA	NA	10%	0%	8%	5%	27%	48%	7%	5%	23%	36%				
Coulibaly et al., 2015b	Lilongue district, Malawi	NA	NA	66%	57%	49%	29%	74%	57%	24%	29%	81%	71%				
	Nsanje district, Malawi	NA	NA	59%	52%	47%	44%	76%	76%	53%	28%	79%	80%				
	Zomba district, Malawi	NA	NA	59%	28%	48%	26%	83%	61%	40%	26%	70%	54%				
Ngigi et al., 2017	6 districts, Kenya	156	156	63%	45%	30%	26%							26%	38%		

Statistically significant: more men than women access

Statistically significant: more women than men access

Access

- Extension services/other dissemination points
- Group processes
- ICT/radio



Photocredit: Alternative Futures



Photocredit: Manon Koningstein (CIAT)

Study	Location	Weather forecast		Seasonal forecast		Onset forecast		Pest, disease early warning		Extreme event forecast		Drought early warning		Mobile advisory		PICSA	
		W	M	W	M	W	M	W	M	W	M	W	M	W	M	W	M
Twyman et al., 2014	Nyando, Kenya	47%	10%	83%	92%	96%	91%					73%	66%				
	Wote, Kenya	81%	4%	99%	94%	100%	100%					96%	94%				
	Rakai, Uganda	39%	57%	93%	75%	94%	94%					77%	45%				
	Kaffrine, Senegal	81%	74%	68%	74%	92%	95%					43%	63%				
Coulibaly et al., 2017	Eastern province, Rwanda	44%	44%	39%	40%	41%	48%	69%	70%	55%	49%	46%	39%				
	Kigali province, Rwanda	33%	18%	43%	34%	67%	61%	67%	63%	25%	43%	75%	40%				
	Northern province, Rwanda	0%	13%	0%	25%	27%	38%	17%	54%	18%	34%	21%	60%				
	Southern province, Rwanda	35%	23%	62%	58%	53%	49%	59%	71%	32%	38%	44%	47%				
	Western province, Rwanda	60%	37%	65%	62%	57%	60%	83%	68%	54%	50%	45%	26%				
Partey et al. Under review	Upper West Region, Ghana													34%	68%		
Clarkson et al., 2017	Rwanda provinces															91%	97%

Statistically significant: more men than women access

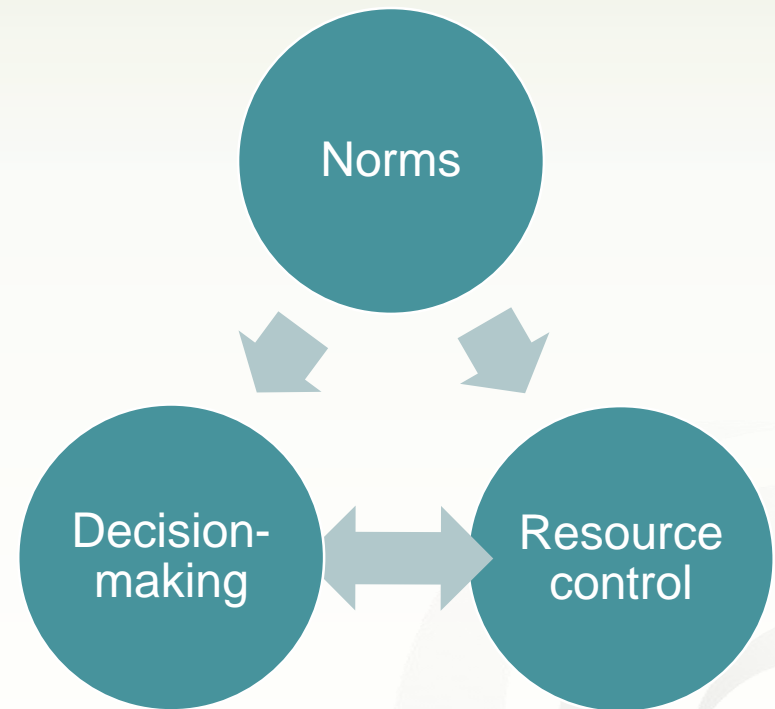
Statistically significant: more women than men access

Use

- Climate service needs
- Use of information



Photocredit: J.L. Urrea (CCAFS)



Conclusions

Gender factor	Affects. . .	Potential solution
Access to group processes	Access to technical information, trainings, planning processes	Inclusion of women's groups and networks
Access to ICT	Access to routine weather information, advisories	Identify and use channels that do serve women
Social norms influence time/mobility constraints and access to public information services & dissemination points	Access to mainstream information sources	
Social norms & resource control influence the decisions under men's and women's control	Type of information needed	Understand and meet women's climate information needs
Limited resource control influences women's capacity to act on climate information	Demand	Seek to address challenges beyond climate services



GENDER & CLIMATE INFORMATION SERVICES

Insights from Participatory Systems Mapping: Niger + Senegal

SNAPSHOT: NIGER



- Pop. 20 million people
- Agriculture = 80% labor force
- +25% women farmers

SNAPSHOT: SUB-SAHARAN AFRICA



- 95% of farmed land in sub-Saharan Africa
- Avg. 25% GDP
- Avg. 50% women farmers

A CHANGING CLIMATE

- Dry spells
- Late onset rain
- High temperatures
- Growing populations
- Shrinking arable land



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Climate Information Services

CLIMATE INFORMATION SERVICES RESEARCH INITIATIVE (CISRI)



CLIMATE INFORMATION SERVICES RESEARCH INITIATIVE (CISRI)



- **Knowledge** of user needs, access & use



- **Evidence** of effectiveness

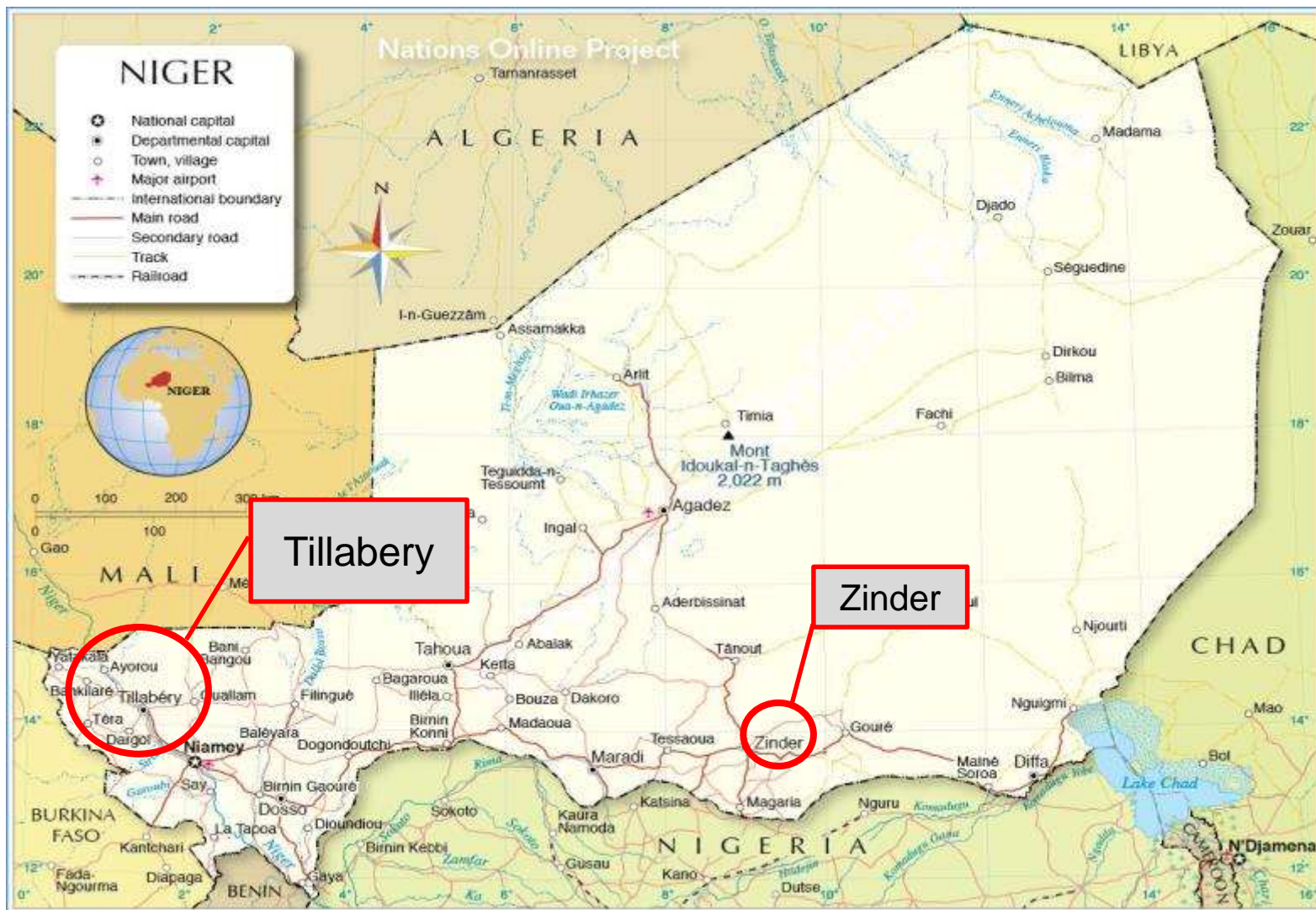


- **Processes** for incorporating learning into implementation

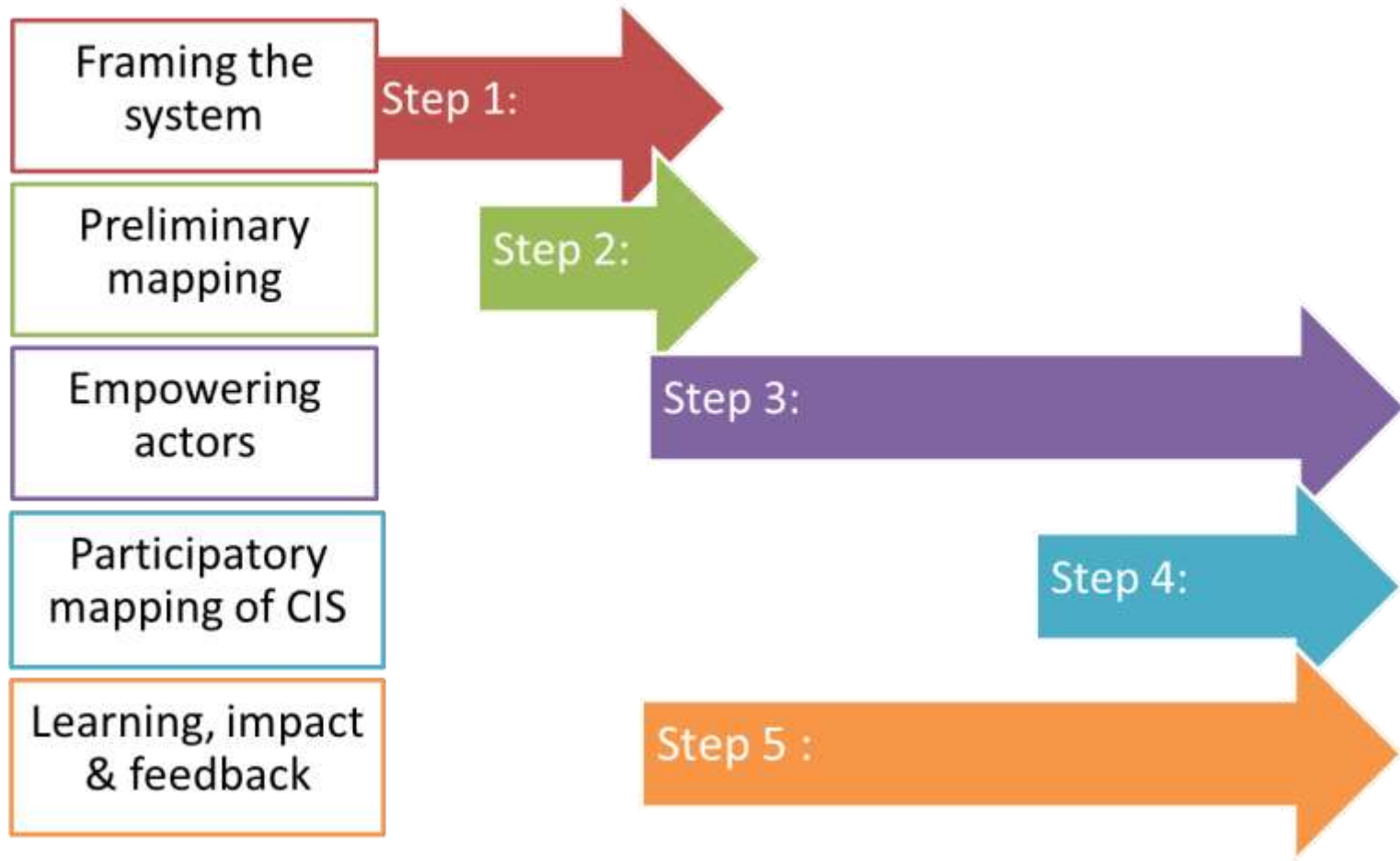


WORKSTREAM 2 LEARNING AGENDA

- ✓ What are the **factors** that foster or limit CIS access, use, and effectiveness?
 - ✓ What CIS **approaches, structures and innovations** best enable uptake, use, and effectiveness?
 - ✓ What are the **key intervention points** for improving CIS in these systems?
-
- **Leads:** Mercy Corps, CRS + Practical Action Consulting



FIVE STEP PROCESS



CASCADING PARTICIPATORY MAPPING



- Farmers
- + Extension Workers, Radio Stations, Local Leaders
- + Government Reps, National Met Services

“THE INDICATORS ARE MISBEHAVING”

- Climate change impacts well recognized
- Knowledge of CIS generally low
- Key Barriers re:
 - Timeliness
 - Accessibility
 - Ability to Use



GENDER EQUITY IN CIS



GENDER DIFFERENCES

- Household
- Village/Community
- Sociocultural Norms



GENDER DIFFERENCES

- **Household**
 - Access to radios
- **Village/Community**
 - Participation at village meetings
- **Sociocultural Norms**
 - Education, Expectations, Structural Barriers



INTERVENTION POINTS



- **Matching Users + Needs**
- **Role of Media**
- **Timing**
- **Bundling of Services**

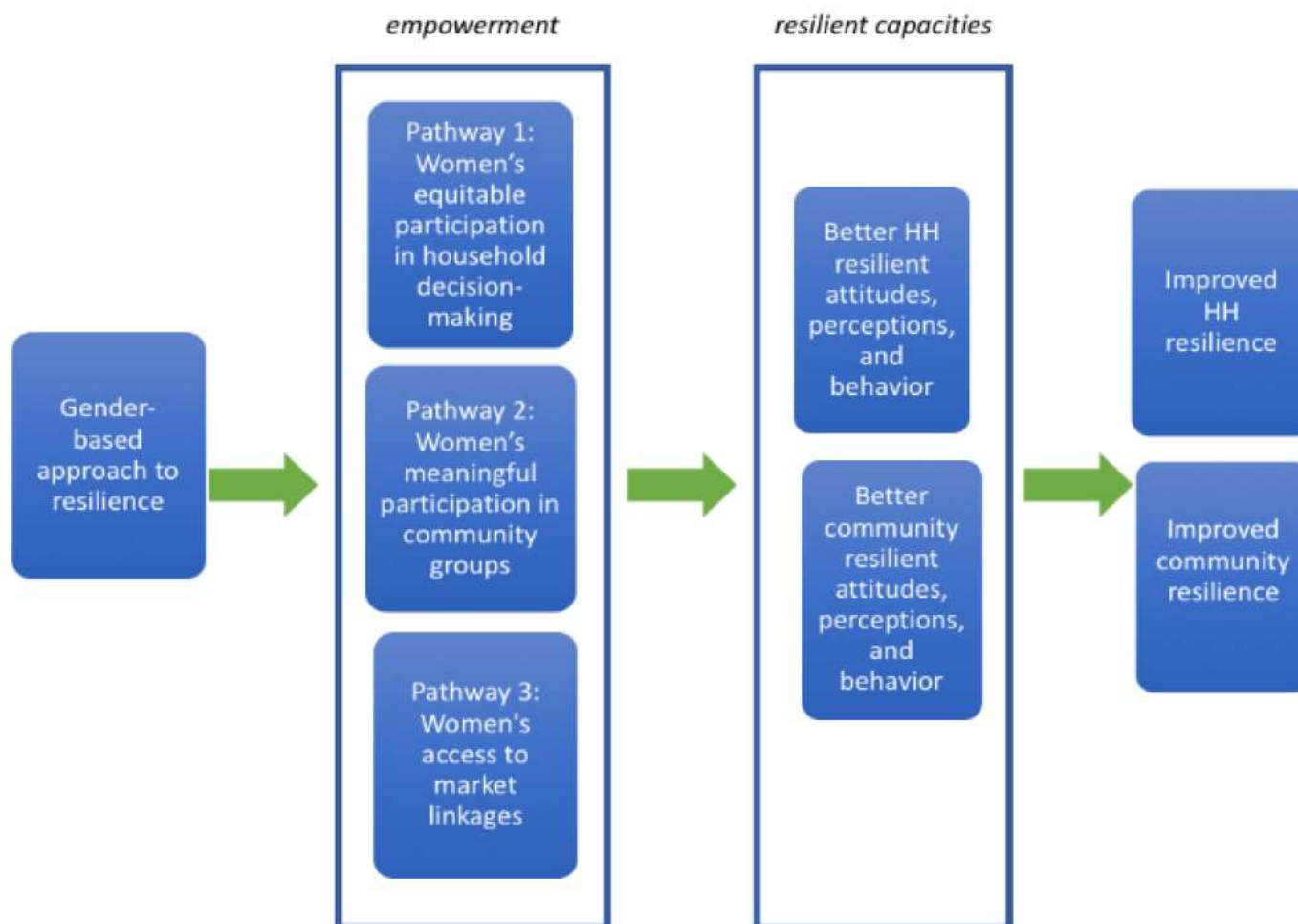
LESSONS FROM THE BRIGE PROGRAM

- **Goal:** Increase the capacity of Mercy Corps' program and partner staff to respond to gender-specific vulnerabilities in the face of natural disasters and climate-related shocks and stresses

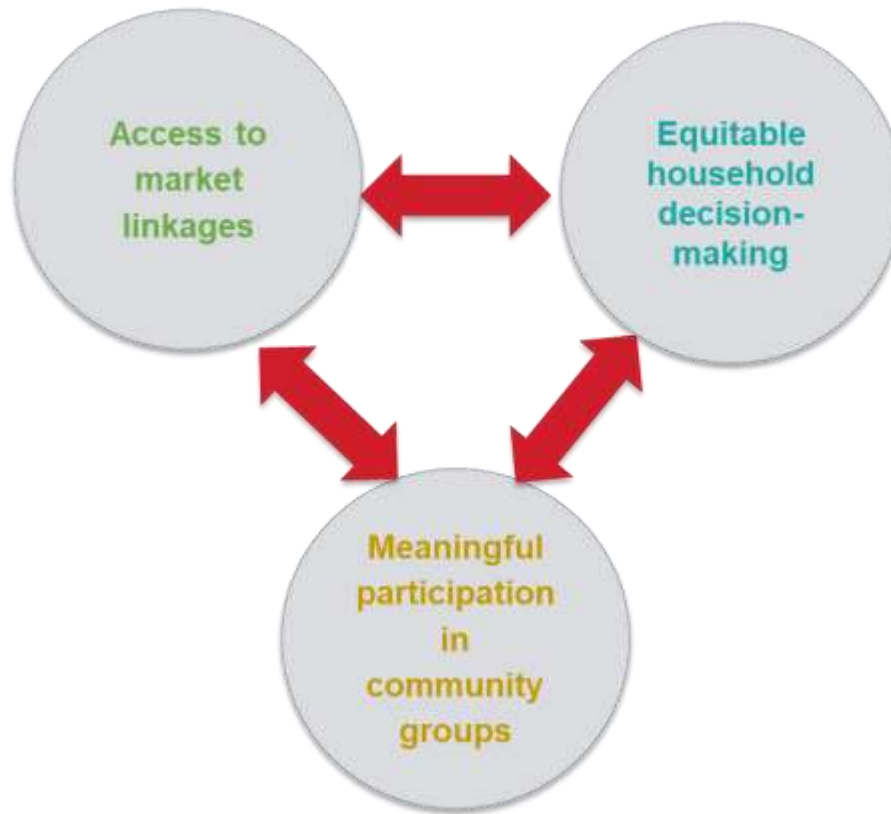
- **Three phases:**
ASSESS ● ACT ● LEARN



} **Locations:** Indonesia, Niger, Nepal



EMPOWERMENT + DECISIONMAKING





<https://www.climatelinks.org/projects/learningagendaonclimateservices>

Questions and Answers

Coming up on Agrilinks!

1

Tune in Tomorrow: **Ask Ag on Facilitating and Financing Agricultural Technologies** with the 2018 Cracking the Nut Conference Organizers

April 26, 2018, 12PM-1PM EDT [Link to the Event](#)

2

Join the Conversation on **Climate, Weather and Resilient Agriculture** on Agrilinks **this May!**

Log in to www.agrilinks.org to post all your climate-related posts and events all month

3

Upcoming **Agrilinks Events in May:**

- Learning from research on water user associations in Tajikistan
- Index insurance with UC Davis' Innovation Lab for Assets and Market Access

AGRILINKS

Knowledge for a Food-Secure Future

Contact: jmaccartee@usaid.gov

Comment on today's topic: <https://bit.ly/2qpXWV6>

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