



# Linking Gender, Climate Change and Nutrition (GCAN)

For Strengthened Policy and Programming

Elizabeth Bryan ([E.Bryan@cgiar.org](mailto:E.Bryan@cgiar.org)), Senior Scientist, IFPRI

7 May 2019

IFPRI Seminar, Lakeshore Hotel, Dhaka, Bangladesh



**USAID**  
FROM THE AMERICAN PEOPLE



**FEED THE FUTURE**  
The U.S. Government's Global Hunger & Food Security Initiative



RESEARCH PROGRAM ON  
**Climate Change,  
Agriculture and  
Food Security**



# WHY DO WE 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 improvement in health, diets, and care?*

# GCAN Project Background

- **Objective:** Support FTF focus countries to understand and use climate data for climate-smart agriculture (CSA) programming that integrates nutrition and gender
- **Activities include:**
  1. Framework and tools for understanding conceptually the linkages between climate change, gender and nutrition.
  2. Research and knowledge management to help answer missions' priority questions related to climate, gender, and nutrition
  3. Enhanced use of FTF open data, including mapping
- For more information (presentations, data, publications) visit:

<https://gcan.ifpri.info/>

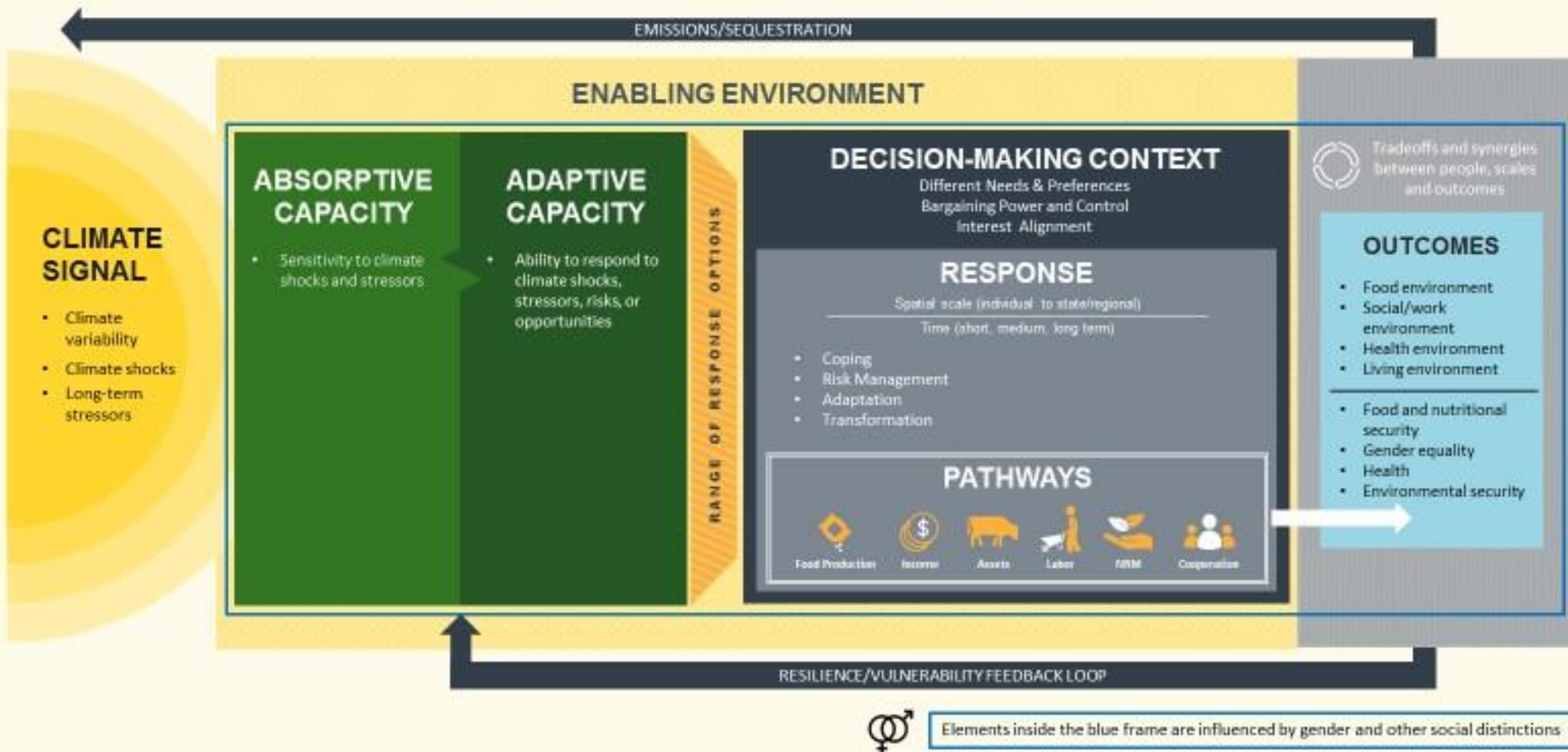
# Gender & Climate & Nutrition Priorities in Bangladesh

- Bangladesh Climate Change Strategy and Action Plan stresses integrated approach to tackling the climate challenge
  - Includes pillar on food security, health and social protection which emphasizes development of more climate change resilience crops, fisheries, and livestock systems
  - Women only mentioned as victims of climate change
- Bangladesh Climate Change Gender Action Plan (2013)
  1. Proposes integration of gender across sectors
  2. Calls for increasing women's access to resources necessary for adaptation
  3. Aims to increase women's participation in institutions
- Development of funds to support adaptation and mitigation

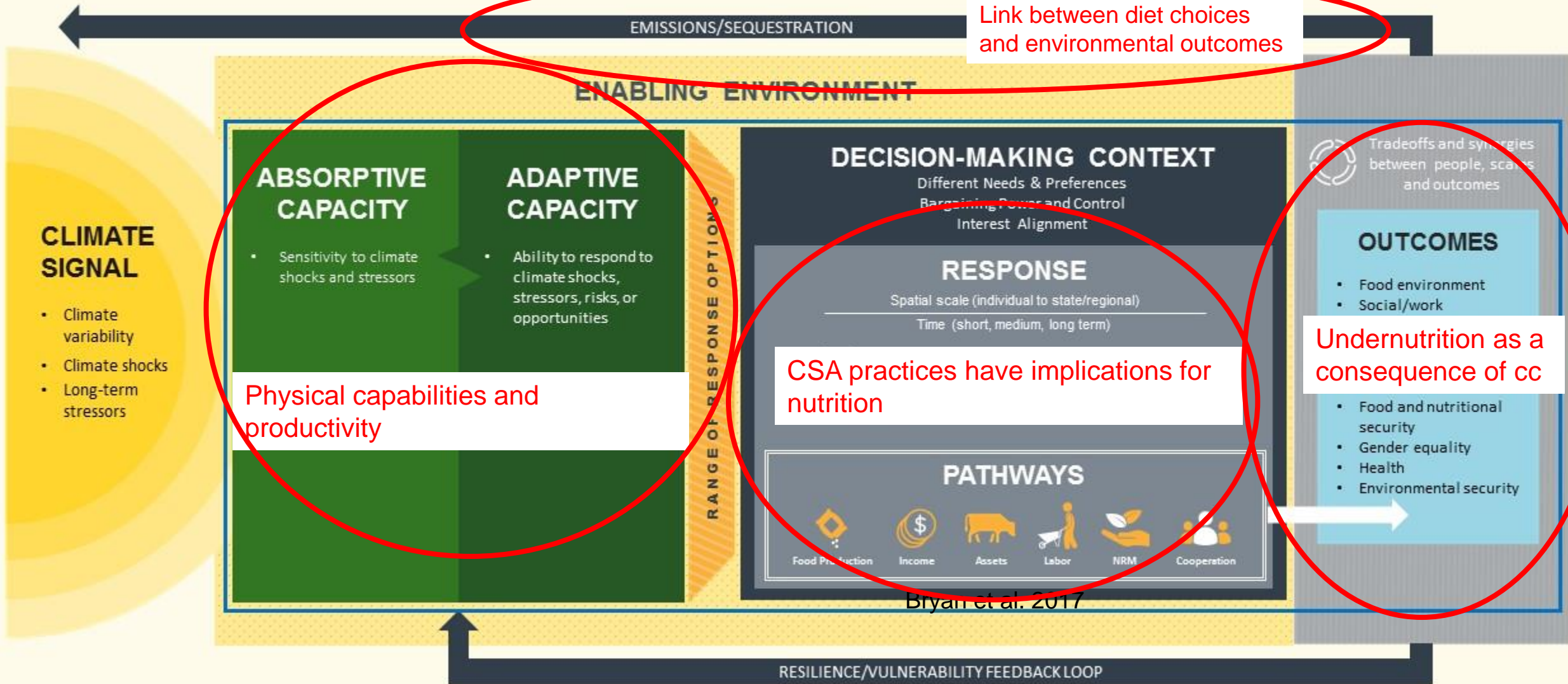
# WHY A NEW CONCEPTUAL FRAMEWORK?

- Highlight **key relationships** between elements of complex systems
- Develop **common ground** for different disciplines and bodies of literature
- Synthesize **state of evidence** and assess evidence gaps
- Identify **potential impact pathways** and entry points for projects, policies
- Basis for **data and indicators** that should be collected for M&E
- Existing frameworks did not illustrate the key elements and connections between **climate change, gender and nutrition**

# Framework for Climate, Gender, and Nutrition



# Framework for Climate, Gender, and Nutrition



Link between diet choices and environmental outcomes

Physical capabilities and productivity

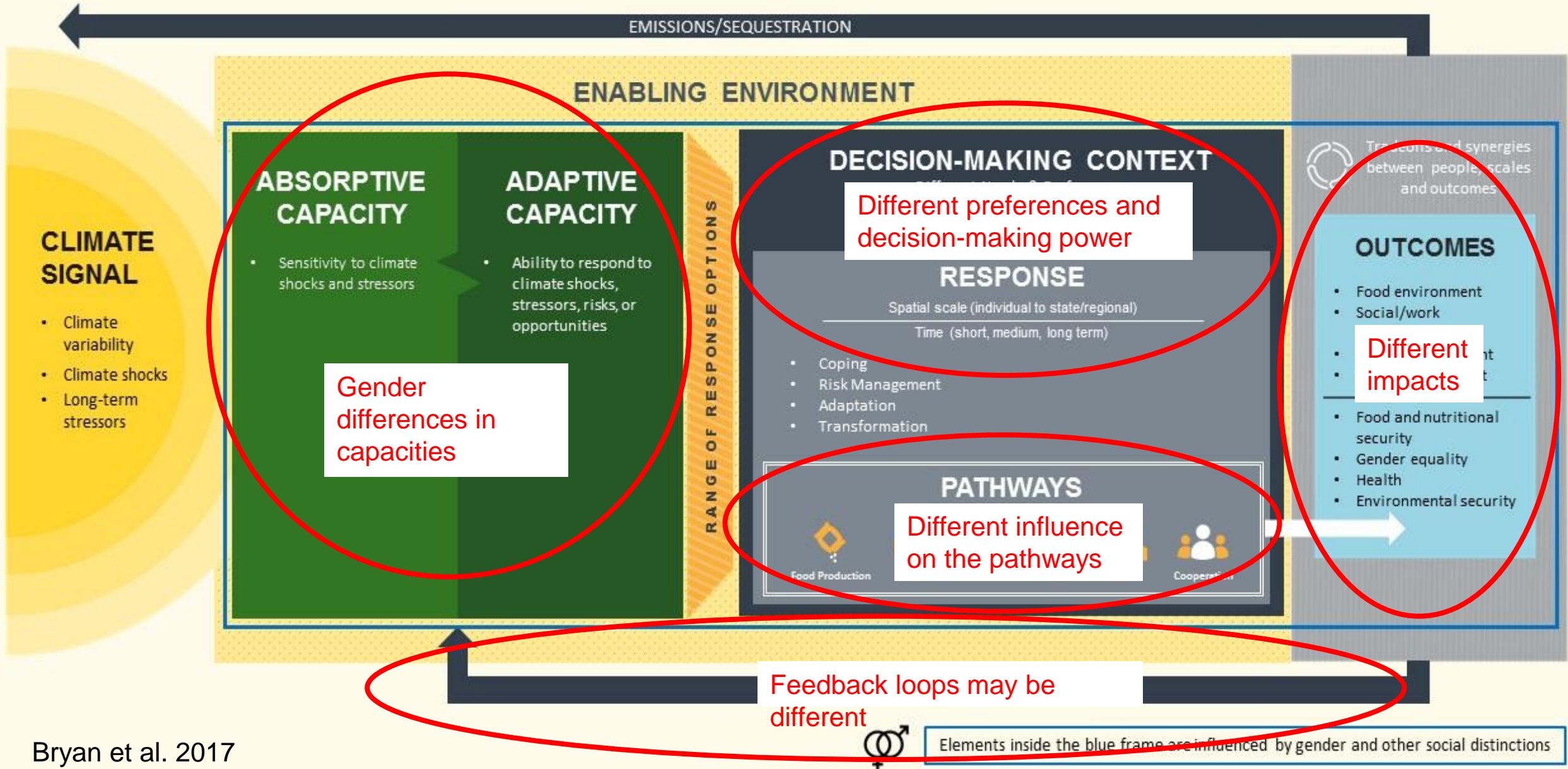
CSA practices have implications for nutrition

Undernutrition as a consequence of cc



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

# Framework for Climate, Gender, and Nutrition



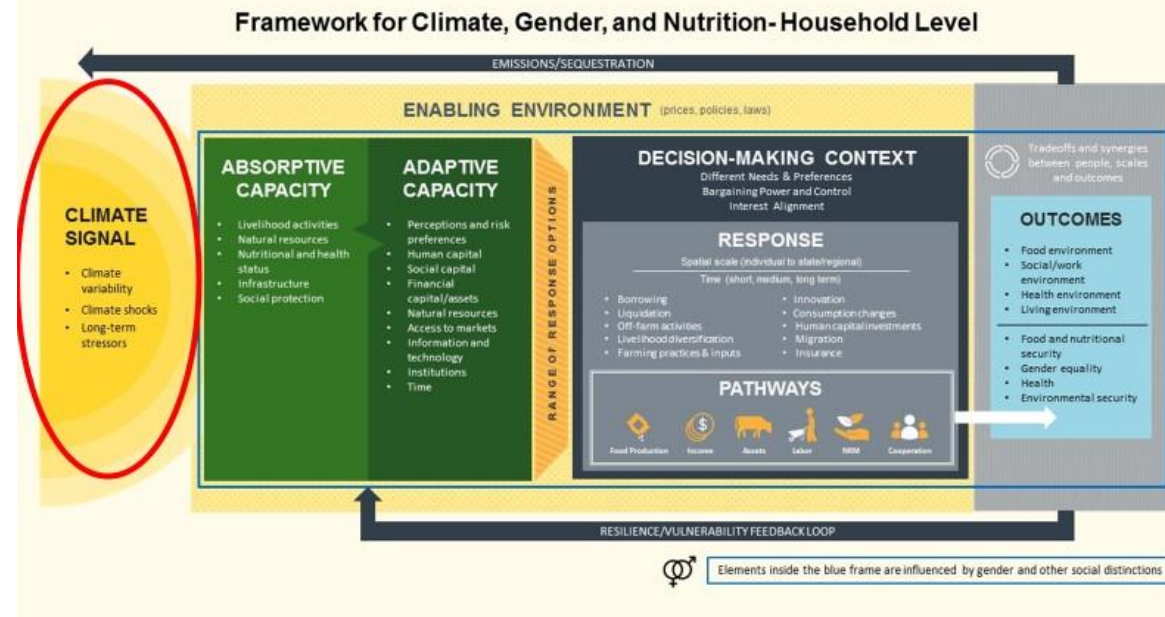


# How We Use the GCAN Framework

- Frame synthesis of literature on climate change, gender and nutrition in selected countries
- Guide engagement with missions during week-long engagements
- Identify research gaps on key elements and relationships in the country context
- Support integration of gender and nutrition in climate risk screening activities
- Develop tools for use during project implementation and planning—starting with a “GCAN checklist”

# Climate Signal: Key Questions

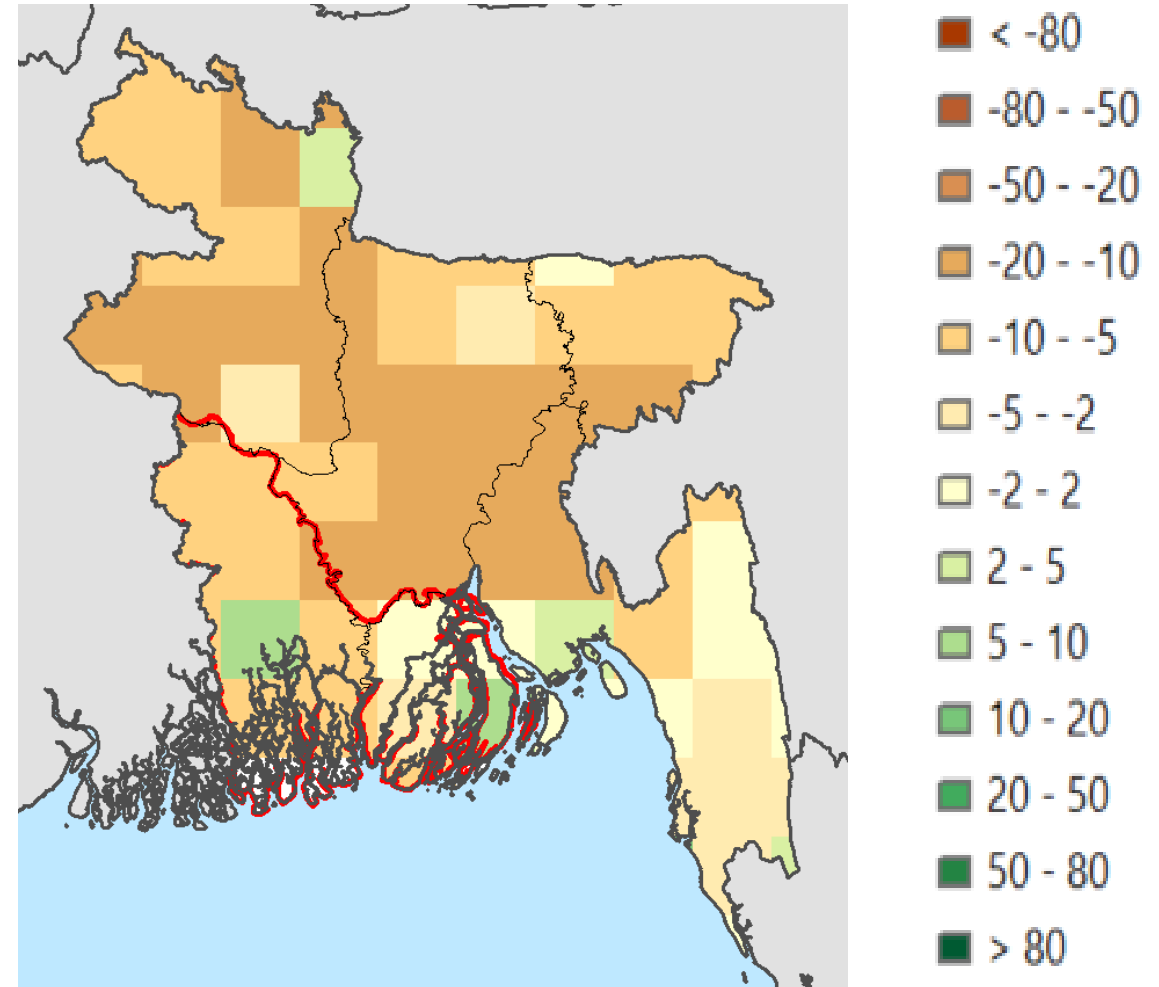
- What historical climate trends have been observed (e.g. changes in average temperature, changes in precipitation, changes in variability such as the frequency of droughts, floods, and seasonal shifts)?
- What are the projected climate changes? (consider time scale and spatial scale of changes)
- What is the impact of climate change on key crops, fisheries, livestock or other livelihood activities?
- What is the magnitude of the event or change?
- What is the degree of uncertainty in projections?



# Climate Signal for Bangladesh

- Increasing temperature (0.64° C between 1948-2011)
- Projected increase in average temperature and rainfall with large temperature increases in the warmest month—a measure of heat stress for agriculture
- More intense cyclones
- Sea level rise, saline intrusion
- Negative impacts on major crops such as maize, rice, sugarcane, and wheat
- Food crops becoming less nutritious

## Rainfed Rice

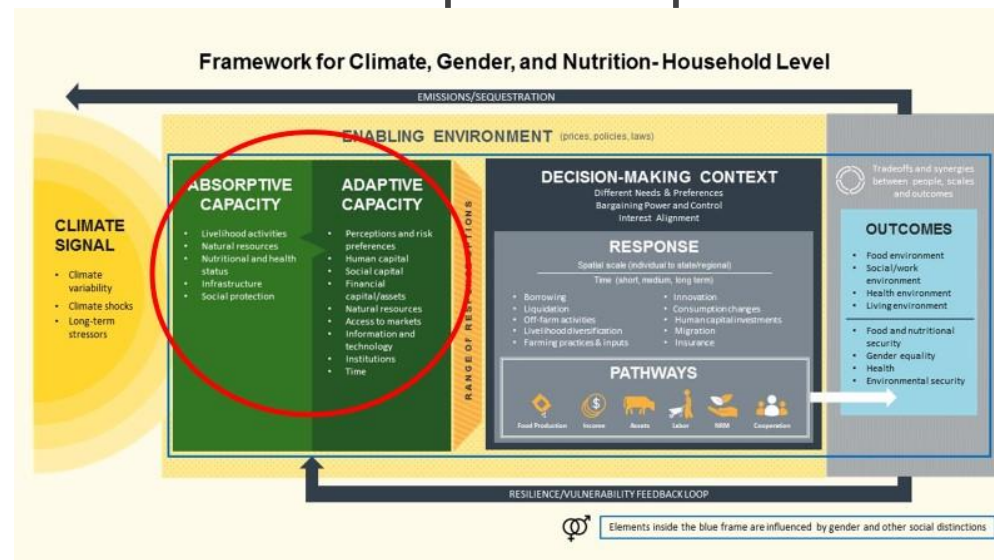


Source: AgMIP GGCM; SPAM 2005.

Note: Median derived from using four General Circulation Models and three crop models.. Evaluated with CO<sub>2</sub> fertilization.

# Absorptive and Adaptive Capacities: Key Questions

- Are there differences in exposure and sensitivity to shocks and stresses for different groups of people based on:
  - Livelihood activities
  - Reliance on natural resources
  - Infrastructure
  - Access to social protection programs
  - Health and nutritional status
- What factors influence men's and women's *ability to respond* to shocks and stressors? How does this then affect their range of available response options?
  - Perceptions of climate change and risk
  - Access to and control over assets and resources
  - Access to information and technology
  - Labor/time
  - Institutions (e.g. groups, social norms and land tenure)



# Differences in Health and Nutritional Status Affect Capacities

## ▪ **Priorities:**

- Global Hunger Index 2016= Score **27.1** (Serious) (-5.4 since 2008)
  - Stunting in children under 5 years: **36%** (**31% urban, 38% rural**)(WHO cutoff  $\geq 20\%$ ). Rank: 107/132. Large disparities between lowest and highest wealth quintiles and at the sub-national region.
  - Wasting in children under 5 years: **14%** (WHO cutoff  $\geq 5\%$ ). 117/130
  - Overweight and Obesity in women  $\geq 20$  years: **19%** (2013)
- 
- **Micronutrient deficiencies** (varies with urban/rural, wealth quintile)
    - Anemia in women of reproductive age: **44%** (WHO cutoff  $\geq 20\%$ )  
Rank: 158/185
    - Anemia in preschool-aged children: **33%**
    - Zinc deficiency in preschool-aged children: **45%**

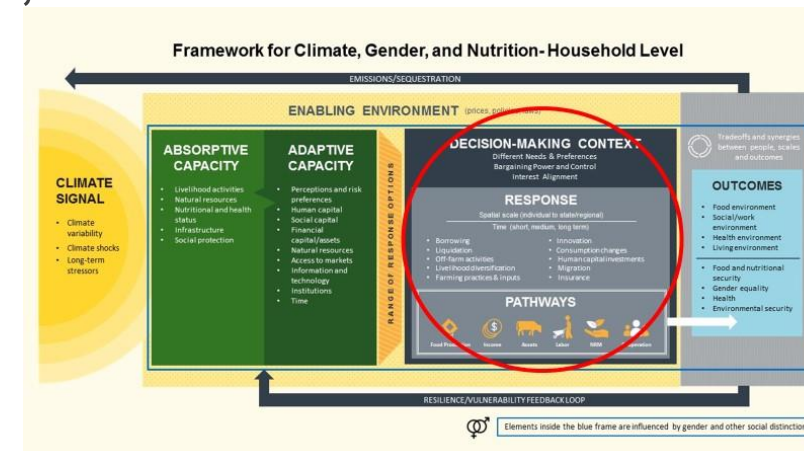
# Differences Access to Information and Technology Affect Capacities

	Awareness			Adoption (conditional on awareness)		
	Men	Women	P-Value	Men	Women	P-Value
<b>Irrigation</b>	97	97	0.8124	62	55.4	0.0358**
<b>Crop residues</b>	56	54.1	0.5976	44	40.6	0.5581
<b>Compositing</b>	79	70	0.0075***	37	39.7	0.5341
<b>Manure management</b>	62	60.2	0.5268	52	36.7	0.0009***
<b>More efficient use of fertilizer</b>	88	55.7	0.0000***	83	64.2	0.0000***
<b>Improved, high yielding varieties</b>	62	41.9	0.0000***	55	48.1	0.0785*
<b>Stress-tolerant varieties</b>	3.4	1.5	0.0992*			
<b>Improved feed management</b>	31	25.7	0.0606*	53	67	0.0393**
<b>Switching to drought or pest tolerant species/breeds</b>	6.4	1.5	0.0007***	8.3	16.6	0.5589
<b>Improved stoves</b>	70	70.2	0.9242	6.1	4.1	0.3046
<b>Agroforestry</b>	57	43.7	0.0003***	8.4	4.8	0.0835*
<b>Integrated pest management (IPM)</b>	79	64.9	0.0000***	51	48.1	0.5882
<b>Improved grain storage</b>	44	36.3	0.0397**	22	59.8	0.0000***

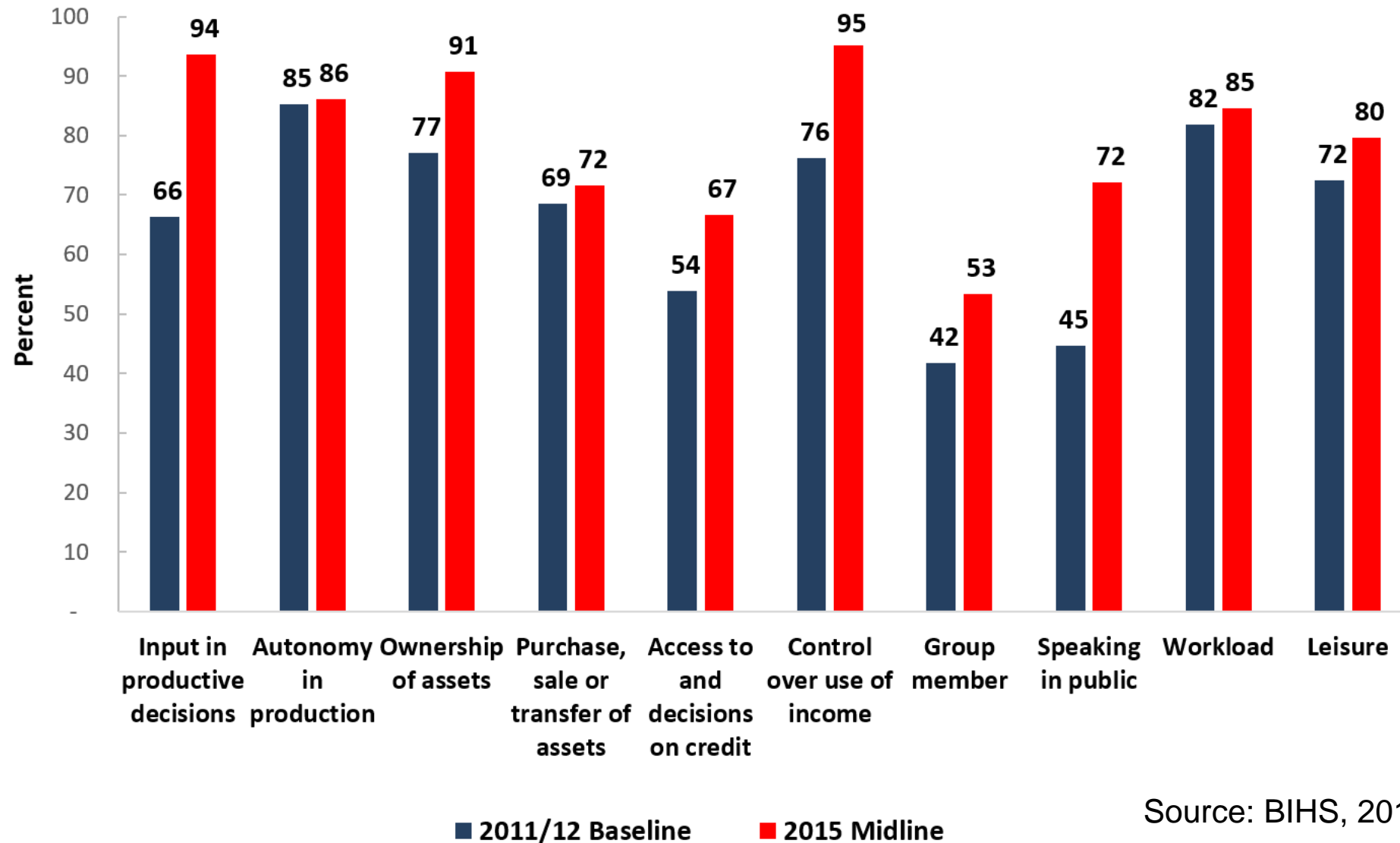
Source: IFPRI-CCAFS Dataset, Bangladesh

# Decision-Making Context and Responses: Key Questions

- Do men and women have different preferences for how to respond to climate stressors/shocks based on their gender norms/roles?
- How well do the interests of different household/community members align?
- Do men and women have different bargaining power to influence response decisions at the household, community, policy levels?
- What are common responses observed in response to climate change and which groups of people choose which responses? (coping responses, risk management, adaptation, transformative responses)
- What are the nutrition and gender implications of chosen responses?



# Women's Tend to Have Less Decision-Making Power in Agriculture but it is Growing

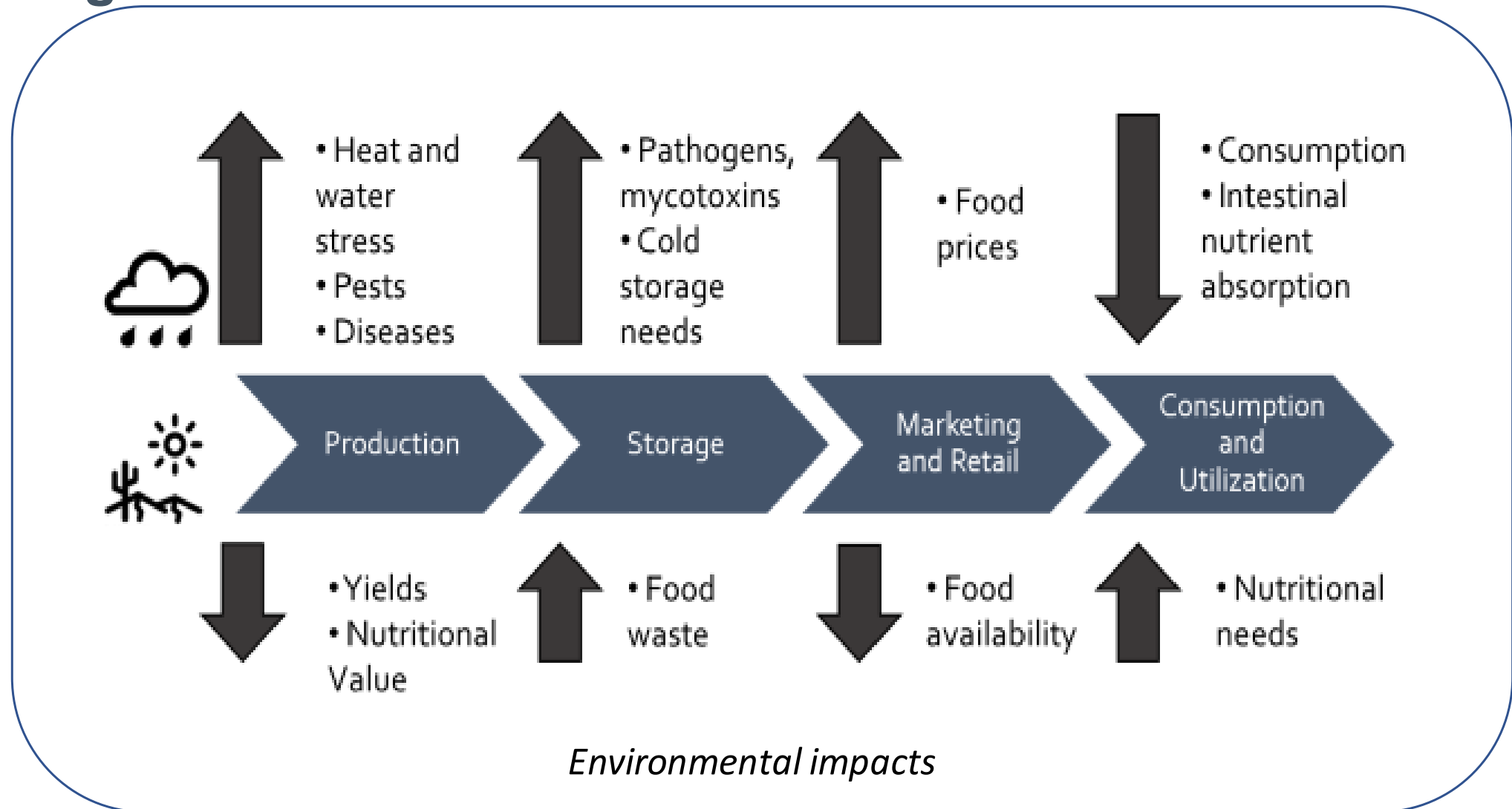


Source: BIHS, 2011/12, 2015



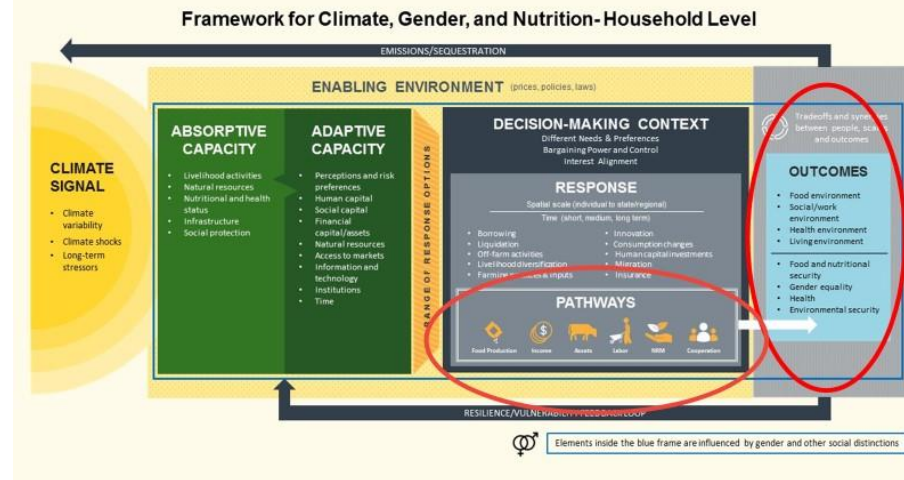
# Responses to Climate Change should Maximize Nutrition “Entering” the Food Value Chain and Minimize Nutrition Exiting” the Value Chain

Source: Adapted from Fanzo, Downs and McLaren 2017



# Pathways and Outcomes: Key Questions

- How do responses to climate shocks and stressors have different impacts on well-being outcomes of men and women?
- What are the pathways that mediate these outcomes?
  - Assets and resources
  - Labor
  - Income
  - Consumption
  - Human capital, etc.
- What are the tradeoffs and synergies across different outcomes and time scales?



## Shocks Affect Men's and Women's Assets Differently

Asset category	2010			2012			Percentage change		
	Husband	Wife	Joint	Husband	Wife	Joint	Husband	Wife	Joint
Consumer durables	4,056	382	914	4,034	264	918	-0.5	-30.9	0.4
Jewelry	5,147	4,566	4,398	5,814	6,519	5,858	13	43	33.2
Vehicles	4,542	180	154	2,604	495	265	-42.7	175	72.1
Agricultural tools	5,084	264	211	4,136	128	112	-18.7	-51.5	-46.9
Other assets	1,879	45	177	2,172	9	435	15.6	-80.0	145.8

Source: Rakib and Matz 2016, IFPRI, Bangladesh Climate Change Adaptation Survey

### Examples:

- Flooding reduces women's livestock holdings
- Cyclones reduce men's non-land physical assets

# Conclusions

- Evidence suggests that paying attention to gender and nutrition is important for more effective climate change programs
- Integration is challenging for many reasons including
  - Accounting for the different ways in which climate change, gender and nutrition interact across different contexts--evidence is usually case specific
  - Need for staff capacity (multidisciplinary teams) across cross-cutting areas
- Positive trends
  - More, better data collection to support decisionmaking (e.g. BIHS)
  - Growing recognition of the importance of integration
- How can the GCAN Framework further support integration in practice?

## Questions for Small Groups

- Is integrating climate change, gender and nutrition a useful proposition?
- How well are gender and nutrition integrated in climate change policies and programs (practice)?
- What are some examples of successes in integrating these themes? What contributed to these successes?
- What are the main constraints to integrate gender during design, implementation, and M&E?