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The U.S. Government's Global Hunger & Food Security Initiative

GLOBAL LEARNING AND EVIDENCE EXCHANGE
CLIMATE-SMART AGRICULTURE

DECEMBER 5–9, 2016 // SIEM REAP, CAMBODIA

Relationships for Resilience: Understanding and Integrating Gender and Nutrition in CSA

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Presenters: Elizabeth Bryan, Sophie Theis, and Jowel Choufani, IFPRI



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GENDER-SENSITIVE CLIMATE-RESILIENT AGRICULTURE FOR NUTRITION (G-CAN) OBJECTIVES

- Feed the Future Mission support
- Conceptual framework and tools to support programming and research
- Research to fill evidence gaps
- Better utilization of existing data, mapping
- Demand-driven advisory services



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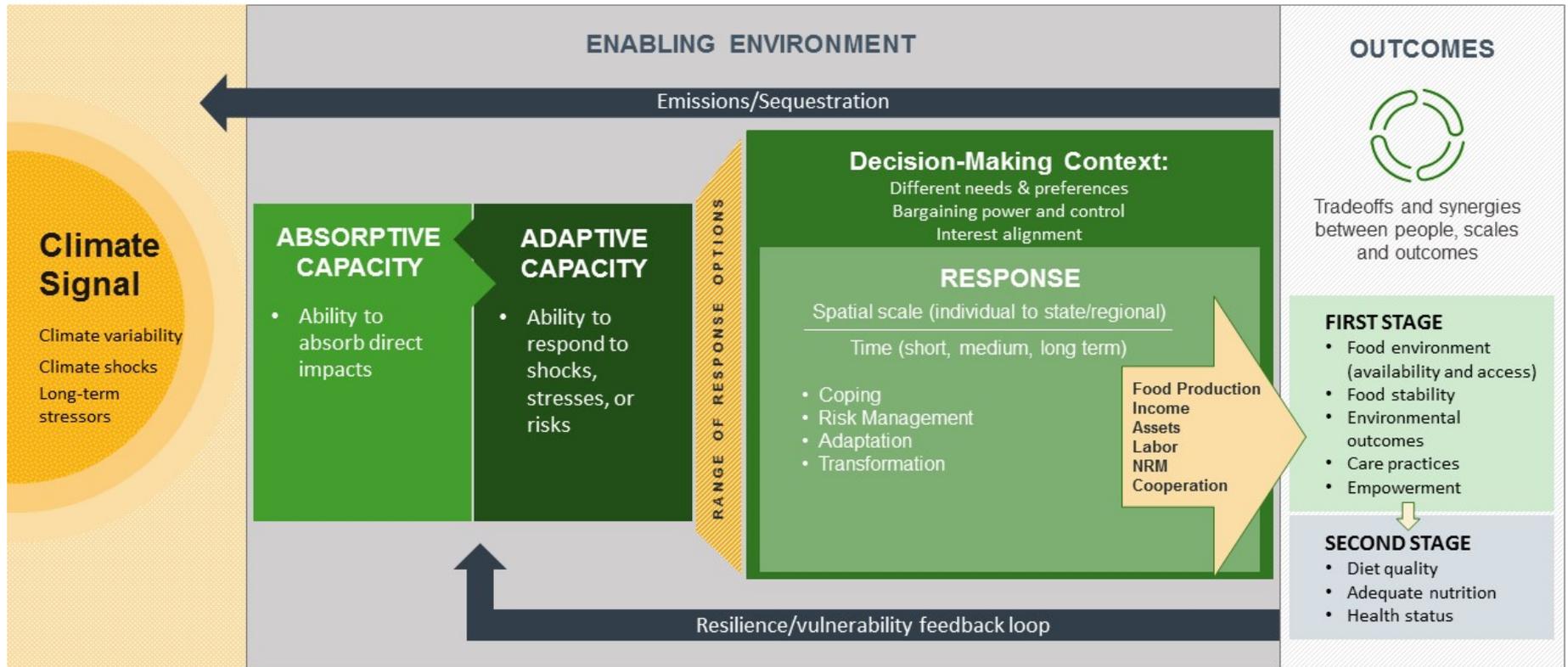
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Framework for Climate, Gender, and Nutrition



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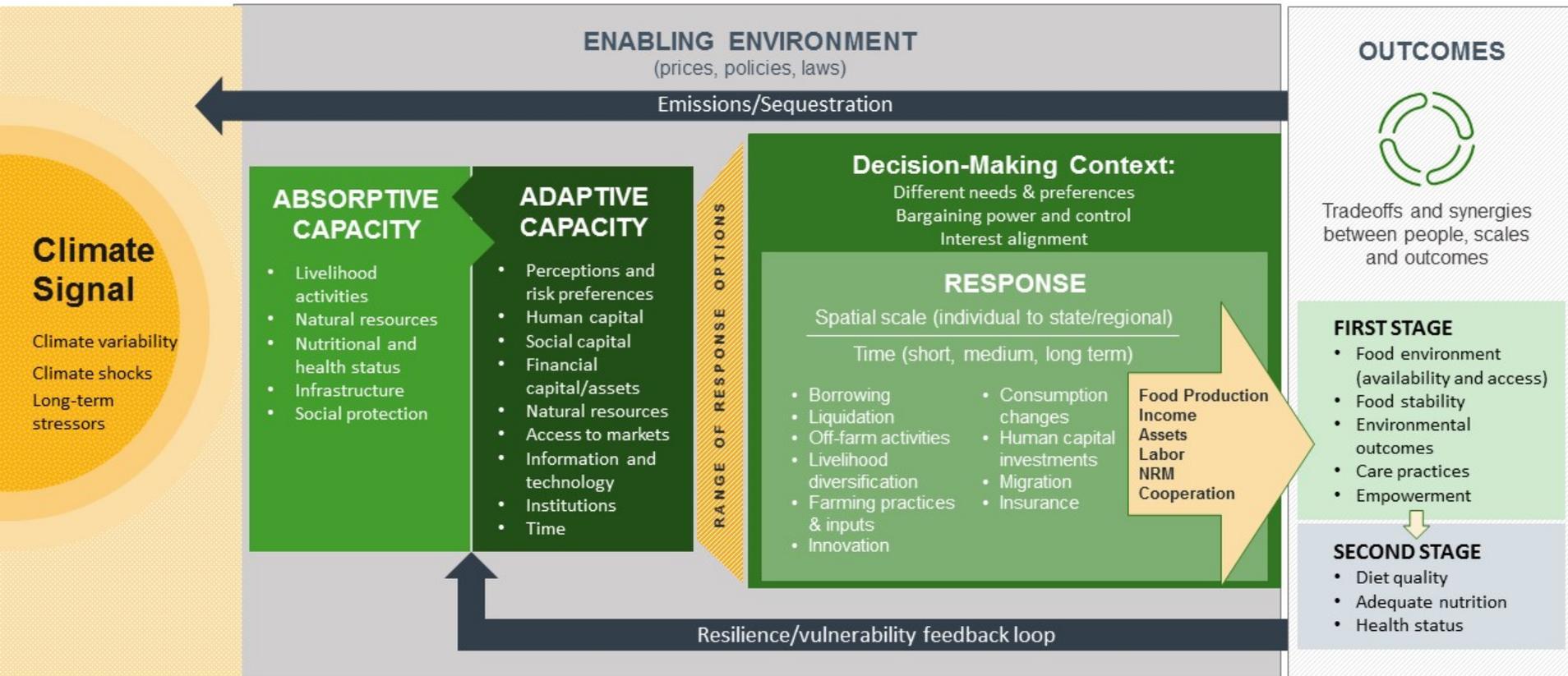
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Framework for Climate, Gender, and Nutrition – Household Level



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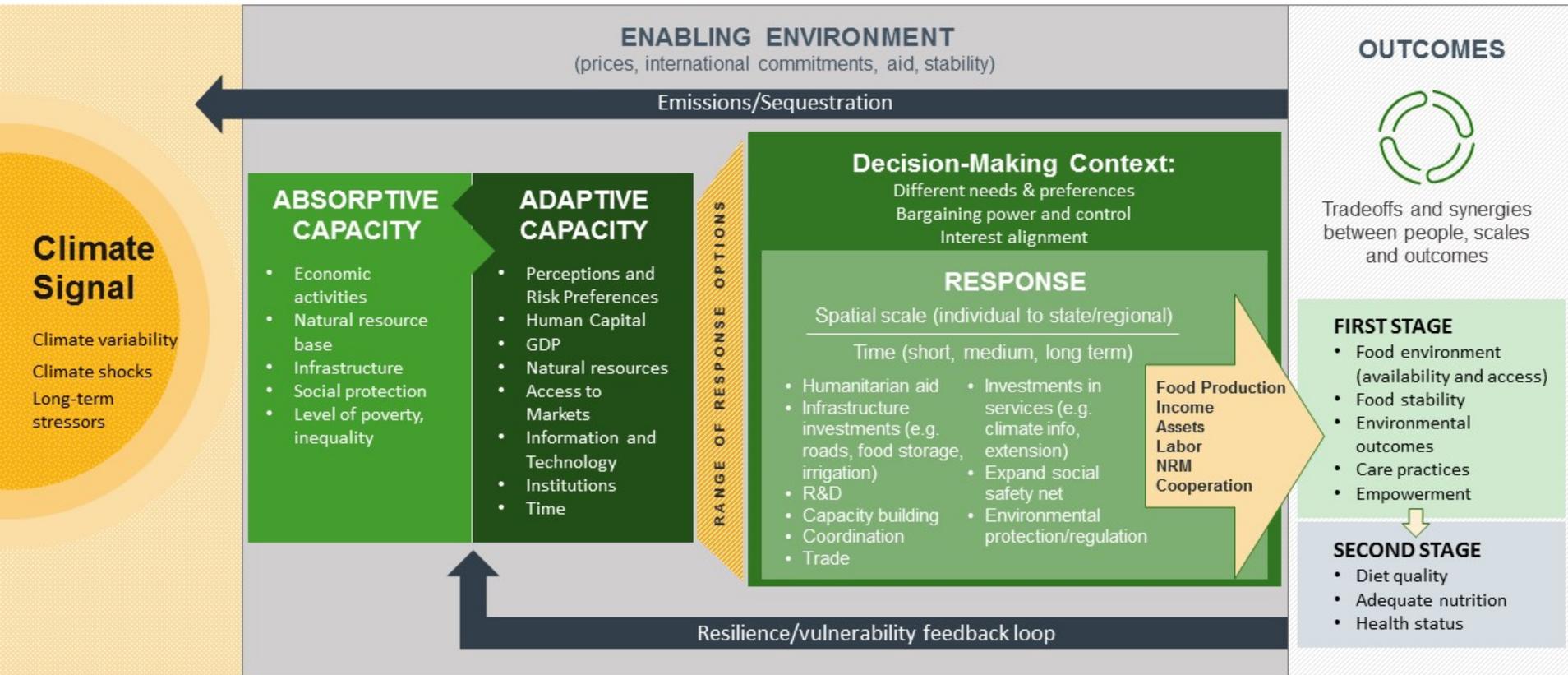
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Framework for Climate, Gender, and Nutrition – Policy/Program Level



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Climate and nutrition: Considerations for nutrition-sensitive approaches



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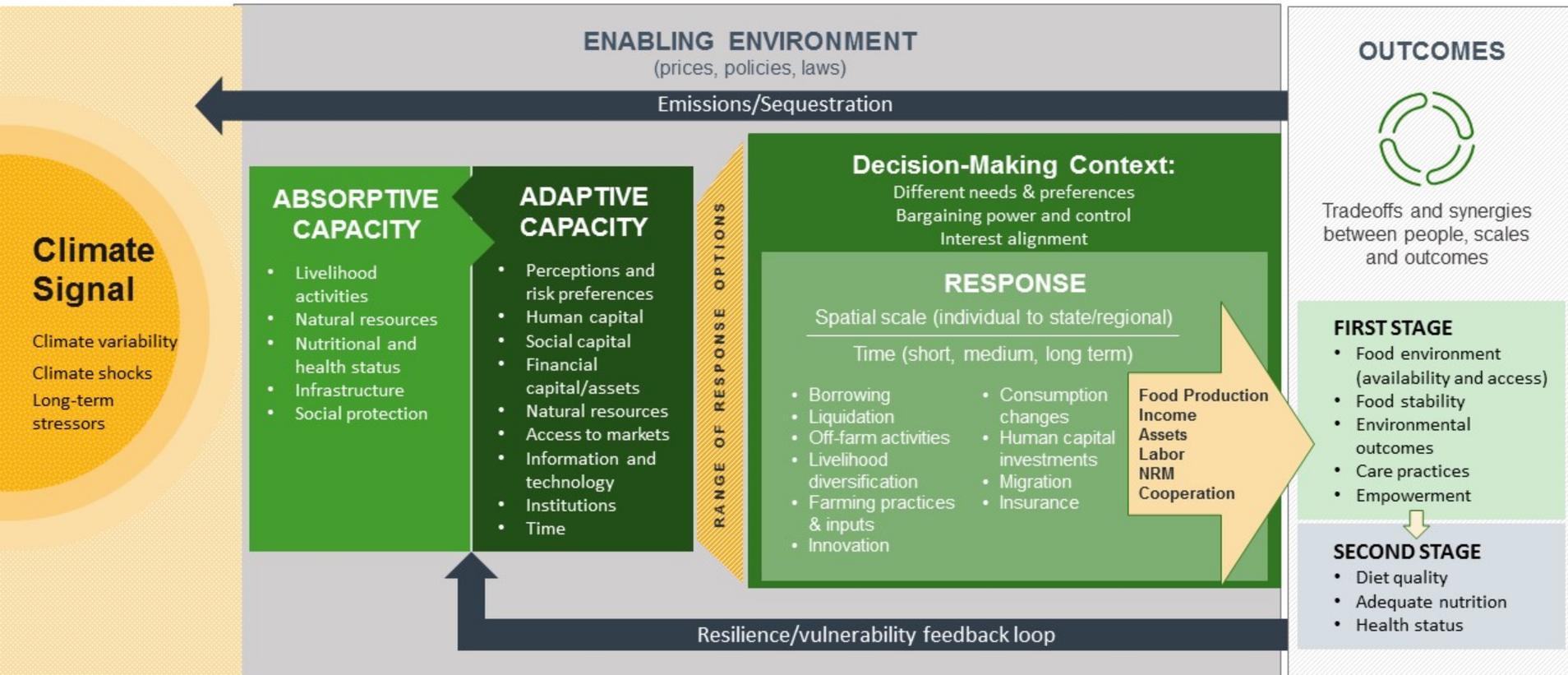
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Framework for Climate, Gender, and Nutrition – Household Level



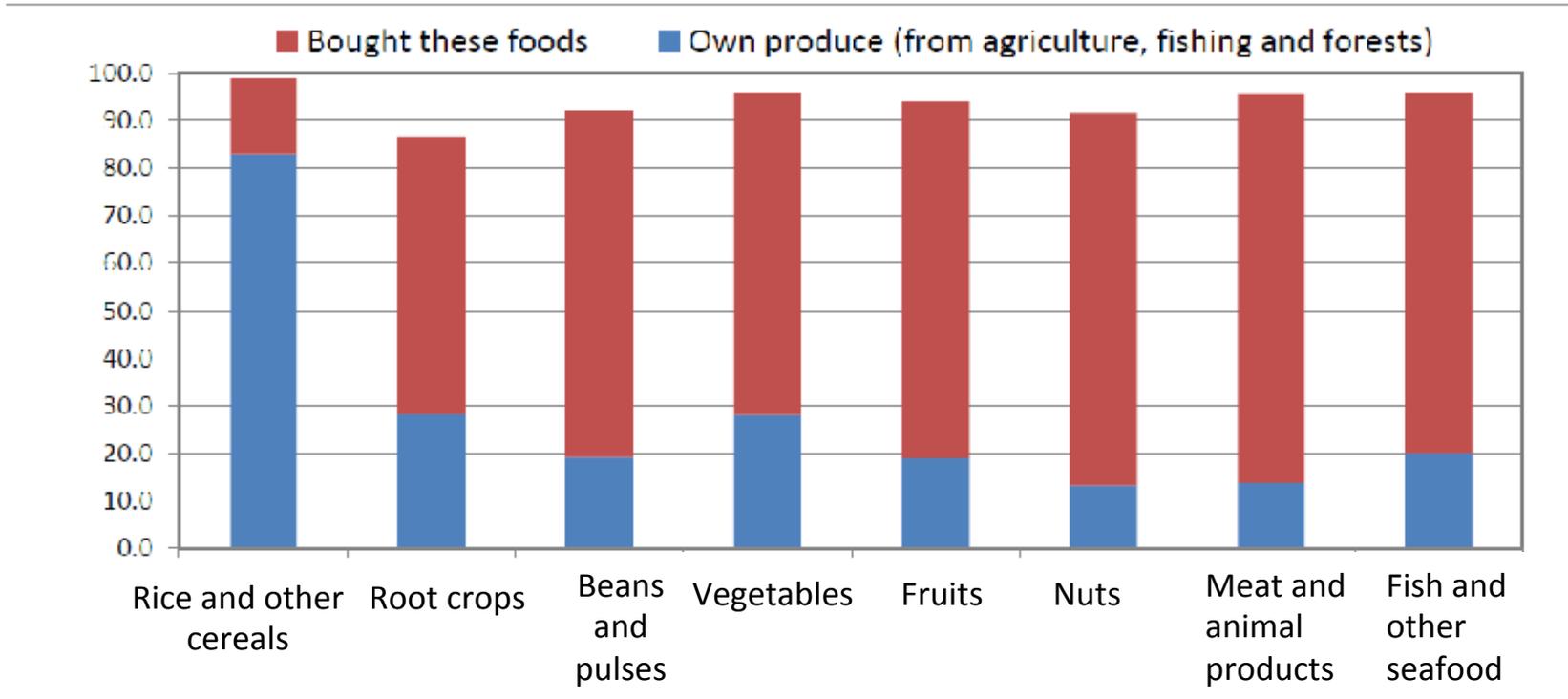
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CAMBODIA—SOURCES OF FOOD CONSUMED

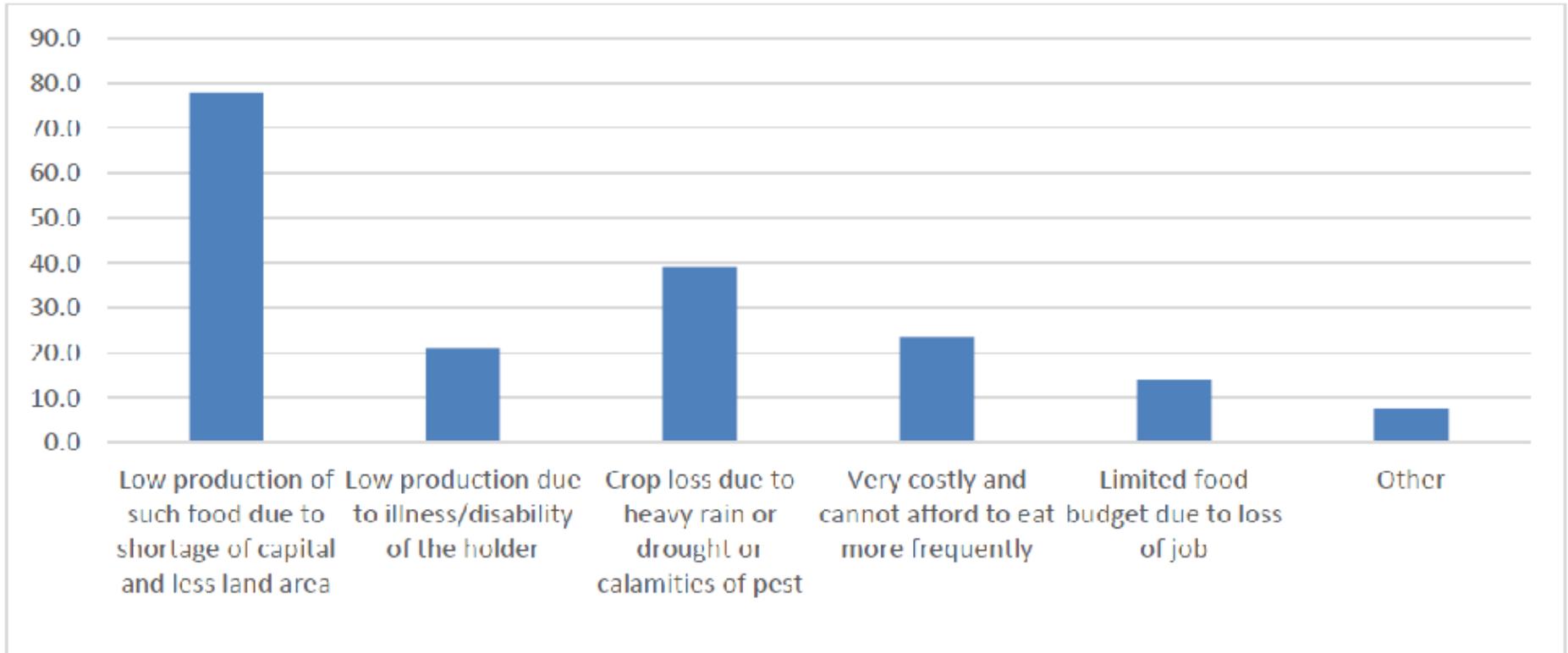


Percentage of households reporting consumption of basic food types in the past seven days by source of food.





CAMBODIA - VARIOUS CAUSES OF FOOD SHORTAGE



Percentage of households reporting various causes of food shortage.





CAMBODIA - NUTRITION IMPLICATIONS OF COPING STRATEGIES

Coping strategies of agricultural households that reported food shortage :

- 50% of households: borrowing money, securing food on credit or as advance payment for manual labor to be undertaken at the time of the next harvest.
- Send household member to look for work or other sources of income outside the agricultural holding.
- Sale or barter of non-food crops, livestock/poultry and handicrafts, etc.

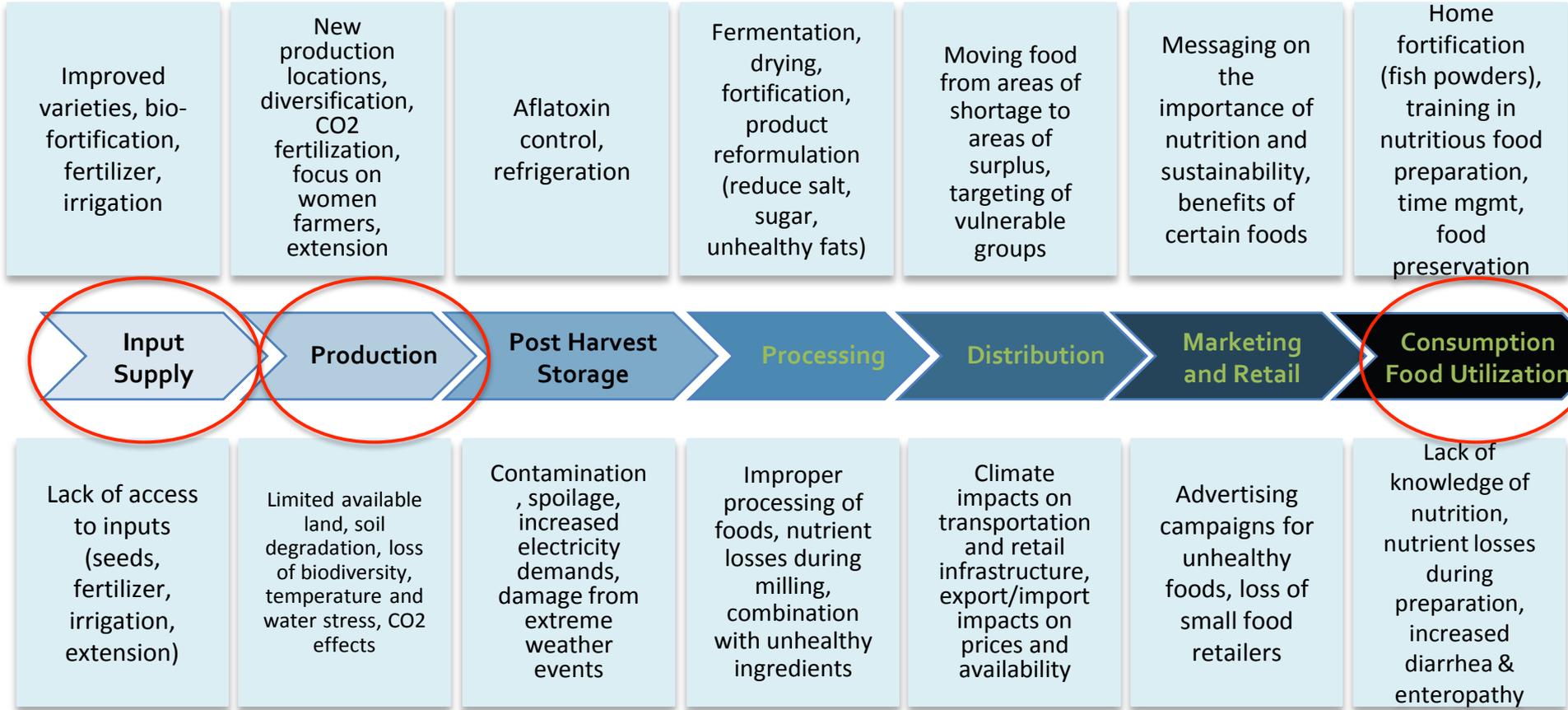
→ Coping strategies may exacerbate impacts of climate change on nutrition/ food security (more debt, more labor, selling of livestock) (men/women, different access)





Climate, Nutrition-Smart Value Chains

Maximize nutrition "entering" the food value chain



Minimize nutrition "exiting" the value chain





NUTRITION-WATER-CLIMATE LINKAGES

- Growing understanding of relationship between WASH and nutrition: Diarrhea; Environmental Enteropathy; Infectious disease, parasitic infections
- Cambodia: significant change in open defecation between 2005 – 2010 able to explain much of the increase in mean child height in that period
- Floods: Destroy crops, Destroy infrastructure, Increase food prices, cause fecal contamination of water sources, increased risk of water-borne diseases, infection



LIVESTOCK/POULTRY-NUTRITION LINKAGES

- Spotlight on livestock/poultry production to diversify diet (egg consumption)
- But what is the relationship with other causes of malnutrition?
- Ethiopia 2015: household survey in 5 regions (6,977 households)
- Explore associations between household poultry ownership, exposure of children to poultry in the home, and HAZ
- Poultry ownership is positively associated with child HAZ [$\beta = 0.291$, s.e. = 0.094], the practice of corralling poultry in the household dwelling overnight is negatively associated with HAZ [$\beta = -0.250$, s.e. = 0.118]
- Poultry-related hygiene issues important mediating factor linking poultry ownership to child growth.





GENDER IN THE AGRICULTURE-TO-NUTRITION PATHWAYS

Knowledge of care/feeding practices, control over income/food consumption decisions, women's health/nutritional status, and time use:

An increase in women's time working in agriculture could have:

Positive Effects on Nutrition

- Increases food and/or income available to the household → improved nutrition
- Increases women's status within the household → increases decision-making power → improved nutrition

(Gillespie 2012, Malapit 2013, Smith 2003)

Negative Effects on Nutrition

- Decreases time available for reproductive work → inadequate care, health, & food practices → poor nutrition

(Rani and Rao 1995, Bhalotra 2010, Berman et al 1997)

- Intensity of agricultural labor adversely impacts maternal health → intergenerational transmission of under-nutrition

(Higgins and Alderman 1997, Herforth 2012, Rao et al 2003)





NO ONE SIZE FITS ALL

- Key drivers of change differ between severely & moderately stunted children and between rural & urban areas → Different interventions needed
- **Rural:** maternal best practices and parental characteristics (parental education levels) are key for child nutrition status, wealth less important (for severely stunted).
- **Moderately stunted:** improvement in health infrastructure—principally improved sanitation and drinking water—important





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Gender and CSA for climate resilience:

A taste of the evidence + entry
points for programming



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WHY GENDER FOR CLIMATE RESILIENCE?

Understanding and addressing these gender differences to:

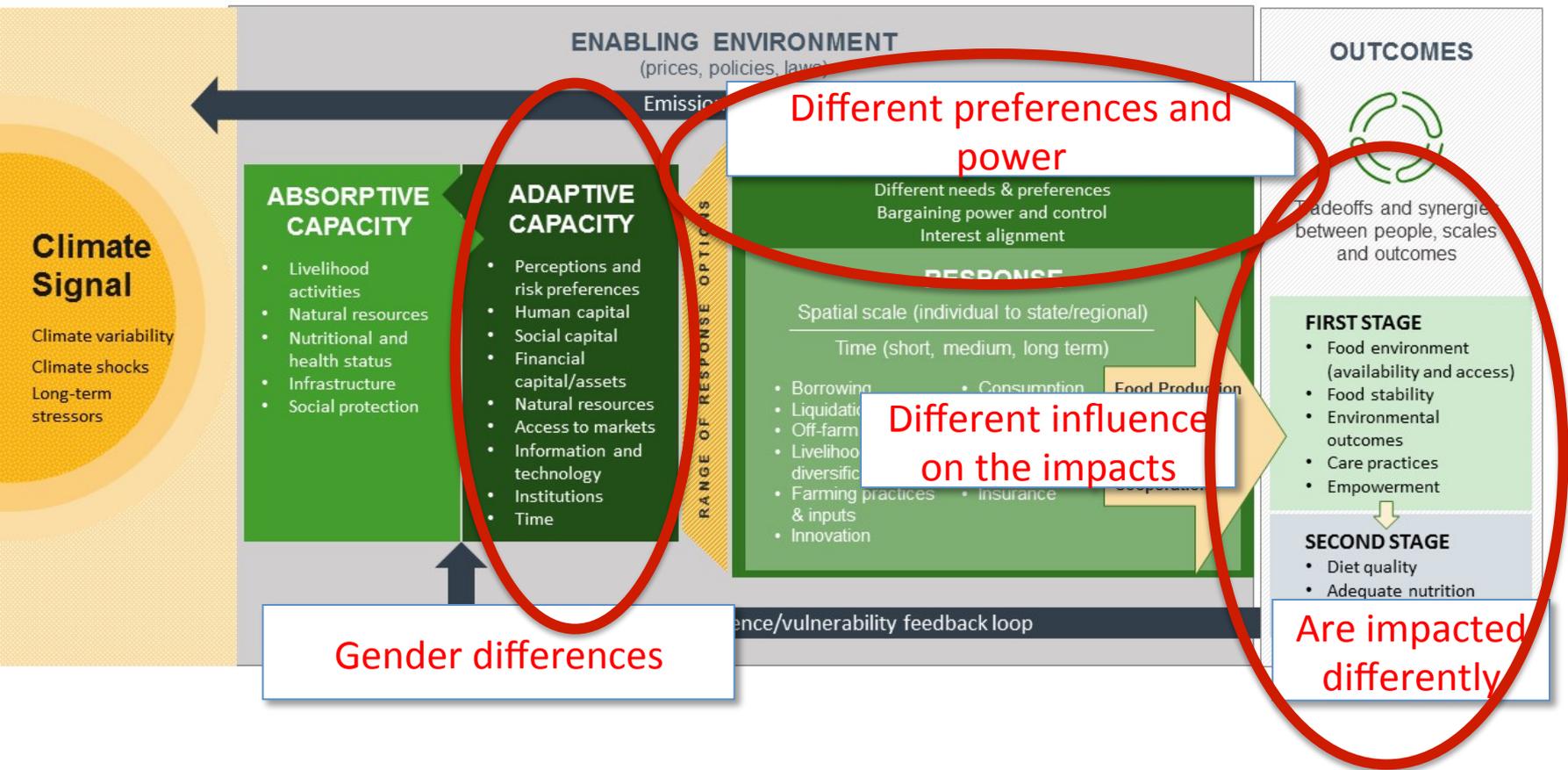
- Ensure social inclusion: *who is adopting CSA and who is not?*
- Mitigate potential harm to the most vulnerable: *how can we catch and reduce unintended negative consequences or inequalities in CSA?*
- Participatory input: *in what ways can women's unique knowledge and networks contribute to programming?*
- Achieve co-benefits/other development outcomes: *how will activities and outputs affect nutrition through health, diets, and care?*
- Advance empowerment and gender equality





WHERE ARE THE GENDER DIFFERENCES?

Framework for Climate, Gender, and Nutrition – Household Level



MEN AND WOMEN GET INFO FROM DIFFERENT SOURCES (BANGLADESH)

		Men	Women
Agricultural sources of information	Government extension services	0.28	0.07
	Agricultural service providers	0.04	0.00
	Farmer field days	0.12	0.01
Group-based sources	NGO	0.14	0.10
	Community meetings	0.03	0.00
	Farmer orgs, coops, CBOs	0.02	0.01
Informal sources	Family members	0.13	0.05
	Neighbors	0.50	0.81
Media and schools	Radio	0.72	0.88
	Television	0.58	0.32
	Newspaper/bulletin	0.87	0.55
	Schools/teacher	0.15	0.04
	Cell phone	0.02	0.01
	Internet	0.02	0.01
Traditional sources	Traditional forecasters, indigenous knowledge, etc.	0.55	0.39

WITH LESS ACCESS TO INFO, LESS LIKELY TO ADOPT

	Whether respondent is aware of practice			Whether respondent adopted practice in past year if they were aware of it		
	Male	Female	p-value	Male	Female	p-value
Planting stress-tolerant varieties	0.03	0.02	*	0.31	0.17	
Improved high yielding varieties	0.62	0.42	***	0.55	0.48	
Irrigation	0.97	0.97		0.62	0.55	*
Applying crop residue	0.56	0.54		0.42	0.40	
Composting	0.79	0.70	***	0.37	0.40	
Livestock manure management	0.62	0.60		0.48	0.33	***
More efficient fertilizer use	0.88	0.56	***	0.83	0.64	***
Cover cropping	0.14	0.09	**	0.02	0.03	
No till/minimum tillage	0.31	0.27		0.06	0.04	
Improved livestock feed management	0.31	0.26		0.53	0.67	**
Integrated pest management	0.79	0.65	***	0.51	0.48	



A FEW CONSIDERATIONS FOR TAILORING CLIMATE INFO & ADVISORY SERVICES

- ❑ **Does it reach men and women?**
 - Different networks, preferred channels of information
- ❑ **Is it relevant to men and women's specific livelihood activities?**
 - Different crops and livestock under men and women's control
 - Different roles within value chain (e.g. weeding)
 - Domestic responsibilities (e.g. fetching water)
- ❑ **Is it actionable for recipients**, given social norms (e.g. mobility), access to inputs, markets, land, tech, time, etc?

Related research on gender and extension:

- Bernier et al 2015. [Gender and institutional aspects of CSA](#)
- Tall et al 2014.
[Who gets the information? Gender, power, and equity considerations in the design of climate services for farmers](#)
- Digital Green + IFPRI research on extension models
- [Integrating Gender and Nutrition in AES](#) (INGENAES)





TIME BURDEN = CONSTRAINT TO CSA ADOPTION

- Given women's triple roles in production, caregiving, and domestic responsibilities, **women shoulder a heavy time burden** in most contexts, and especially in Asia - high dependency ratio and male out-migration
- In addition, hiring labor can be more difficult for women
- Available time and access to labor can pose a constraint for women to adopt certain CSA practices
- **Possible programming approaches:** cooperatives, service providers, techniques and technologies to reduce drudgery, labor exchange, child care, transportation, ICT, water and cooking infrastructure, etc...

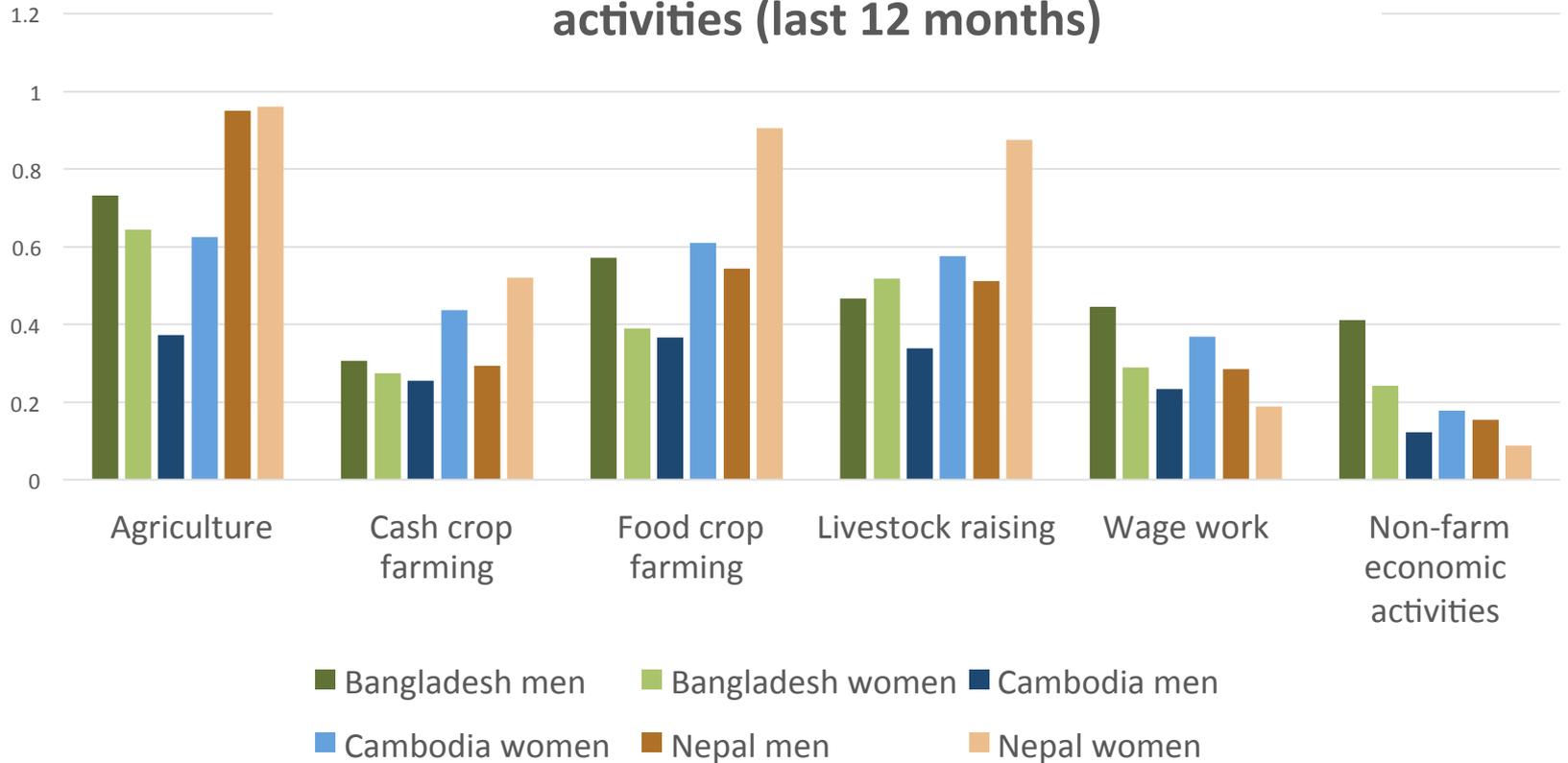




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Percent of respondents who engaged in productive activities (last 12 months)



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Source: PBS survey datasets in [Komatsu, Malapit, and Theis 2015](#)

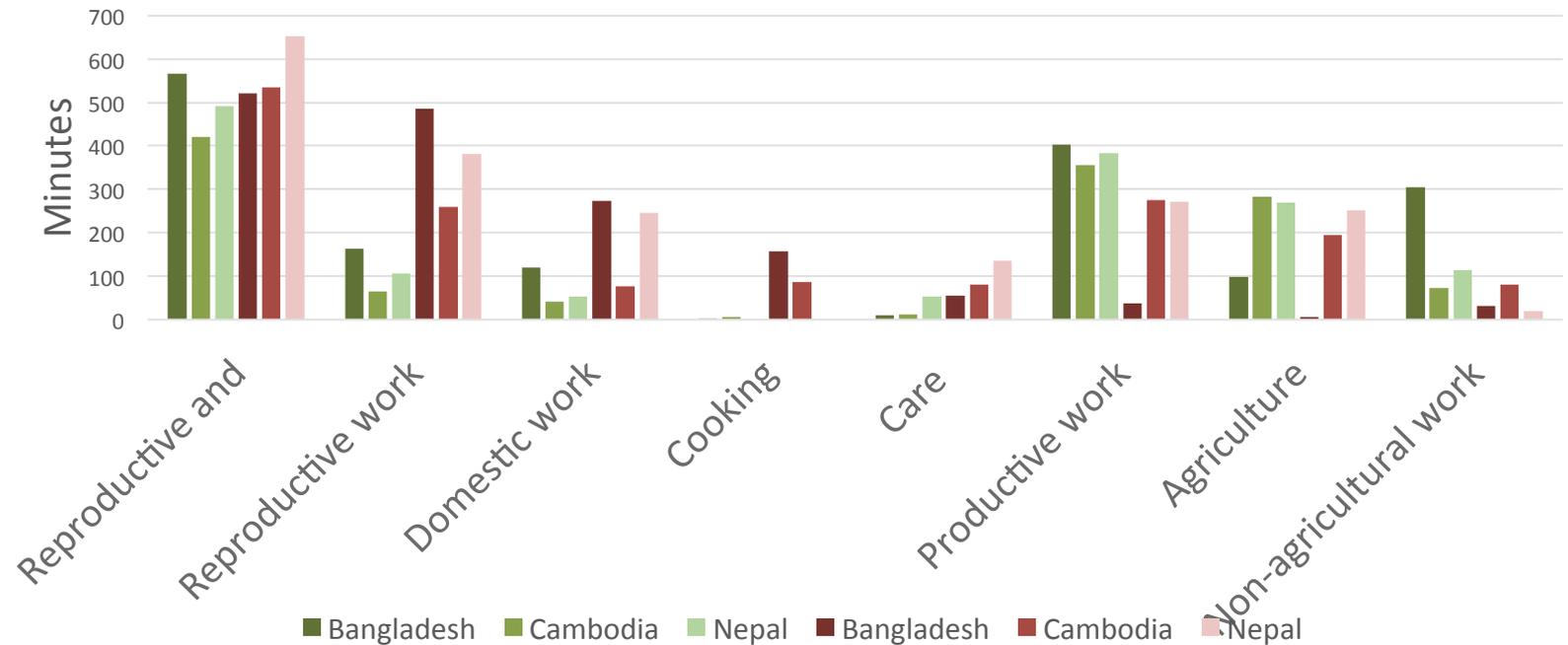




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MEN AND WOMEN'S AVERAGE TIME USE IN LAST 24 HRS (BANGLADESH, CAMBODIA, NEPAL)



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Source: PBS survey datasets in [Komatsu, Malapit, and Theis 2015](#)



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DECISION MAKING CONTEXT

- Men and women often have different preferences and needs related to responding to climate change
- To what extent do they have power – in the household and community – to influence decisions in line with their priorities?
- Women face various forms of exclusion from participating meaningfully in organizations that set rules or allocate resources for adaptation and NRM (e.g. water user associations)
- Collective action/groups can increase negotiating power with service providers (e.g. landlords, axial flow pumps example)
- Sex-disaggregated indicators that count participation in groups are good, but we can do better!

Mini literature review + programming ideas:

- [What do we know about women in water user groups?](#)





WILL CSA CLOSE OR EXACERBATE GENDER INEQUALITIES?

- **The costs and benefits of responses to climate change, including CSA, are not distributed across all household members equally.**
- How does time use change on different activities, and for whom?
- How does relative control over income change?
- Who gains/loses assets?
- Who is impacted by changes in human capital investments? (e.g. leaving school, reduced health services)
- Who changes consumption?
- Who is more exposed to health risks?

Programming entry point: Conduct sex- and age-disaggregated M&E across a range of not necessarily intended impacts if you want to know!





KEY TAKEAWAYS

- We need to consider the implications of climate change coping strategies on nutritional status
- We need to integrate WASH, health/nutrition and CSA to ensure maximum impact on child nutrition
- Gender inequalities can constrain adoption of CSA and miss opportunities for increasing climate resilience
- The costs and benefits of CSA are not distributed across all household members equally
- CSA can help close the gender gap, but if not designed and measured well, can exacerbate inequalities
- Entry points for increasing women's participation will vary between contexts – need to investigate specific context





SMALL GROUP QUESTIONS

GROUP A:

- What are the main constraints to responding to climate change in your country context? Are these constraints different for different social groups (e.g. men and women)?

GROUP B:

- What are the key options for responding to climate challenges in your country context? Are these options different for different groups/actors?

GROUP C:

- What are the environmental, nutrition, health and gender implications of climate change responses being promoted or adopted in your country context? Are there tradeoffs across outcomes and/or groups of people?

ALL GROUPS:

- What are programming ideas for improving outcomes and reducing tradeoffs?
- What key questions remain for you after this discussion? What further research, collaboration, or knowledge exchange would help address these questions?





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