

Gender, Climate Change, and Nutrition Integration Initiative (GCAN)

GCAN Policy Note 11 • November 2018

BUILDING RESILIENCE FOR ALL The Gender and Social Dynamics of Resilience

Sophie Theis, Elizabeth Bryan, Jowel Choufani, Claudia Ringler, and Ruth Meinzen-Dick

The United States Agency for International Development (USAID) defines resilience as "the ability of people, households, communities, countries and systems to mitigate, adapt to and recover from shocks and stresses in a manner that reduces chronic vulnerability and facilitates inclusive growth" (USAID 2012, 5). Resilience programs aim to support people in building and exercising their resilience capacities in response to shocks and stresses, while securing their wellbeing (Frankenberger et al. 2014). Studying the relationships among capacities, disturbances, and wellbeing outcomes-including which kinds of capacities build resilience, how people can be supported in accessing and developing capacities, and what kinds of response strategies facilitate wellbeing outcomes for all—is critical to advance the evidence base for effective resilience programming.

It is clear, however, that preferences and needs related to capacities, response strategies, and wellbeing outcomes are not homogeneous for any given population or community. There is growing acceptance that gender and social inequalities influence resilience trajectories (Frankenberger et al. 2013; Mercy Corps 2016; USAID 2017). An emerging body of practitioner guidance emphasizes that vulnerabilities and resilience capacities differ by gender (Mercy Corps 2014; Le Masson 2016; Tabaj et al. 2017; Anderson 2018). From this, one message has become clear: without investigating how needs and capacities differ among groups of people, resilience interventions run the risk of unintentionally excluding vulnerable groups or even increasing

marginalization and vulnerability. Programs that *do* address gender-specific constraints and opportunities may be able to reap an "equity dividend" by unlocking women's and marginalized groups' contributions to resilience.

While evidence to date suggests that resilience trajectories are gendered, further study is needed to understand how the process of resilience is shaped by gender and social difference. Sex-disaggregated data are important, but only if the right questions are asked. Because gender and resilience dynamics are highly context-specific, guidance is needed on how to investigate these issues in specific program settings.

This policy note recommends key areas of inquiry for assessing gender and social differences in resilience that can be used to inform, evaluate, and strengthen resilience programming. Grounded in the conceptual framework of the Gender, Climate, and Nutrition Integration Initiative (GCAN), the note identifies and describes key gender issues related to resilience. Greater attention to heterogeneity in resilience forms the foundation for developing locally specific strategies to strengthen resilience for all.

GCAN Framework on Resilience, Gender, and Nutrition

The GCAN framework characterizes the relationships among resilience, gender, and nutrition by integrating gender and nutrition elements from other conceptual frameworks—including links between gender and climate

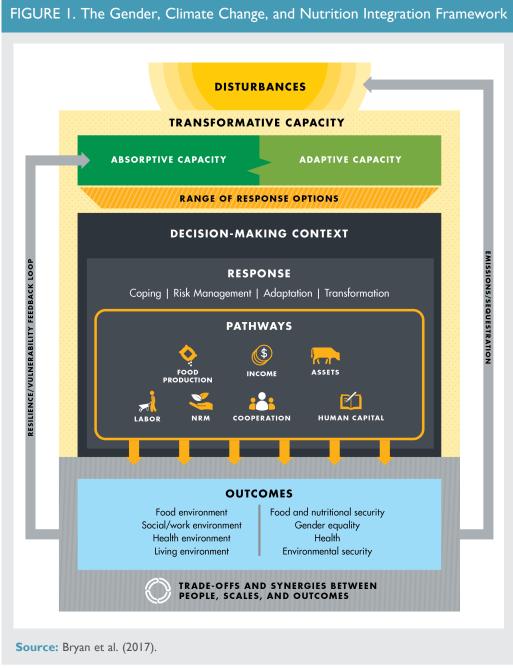
www.feedthefuture.gov











change (Behrman, Bryan, and Goh 2014), climate change and nutrition (IFPRI 2015), and pathways from agriculture

Frankenberger et al. (2014) resilience framework (Figure 1).

to nutrition (SPRING 2014)—with the widely used

In this framework, each element is shaped by gender and social dynamics, such that no two people follow exactly the same pathway. The framework highlights the decisionmaking context, which is an actor's ability to negotiate their preferred response option within households and

communities. This is another key element that shows strong differences by gender (Behrman Bryan, and Goh 2014). In addition, the framework specifies seven pathways that influence wellbeing outcomes. Focusing on the decisionmaking context and the outcome pathways helps uncover the mechanisms driving observed responses and wellbeing outcomes. The pathways also help to elucidate how wellbeing outcomes are distributed among different groups of people, as well as spatially and temporally.

The framework encourages both intersectional and intrahousehold analyses. In this way, the framework assists practitioners in moving beyond binary comparisons, such as of men versus women, or male-headed versus femaleheaded households, to identify differences in experiences. An intrahousehold perspective is important to reveal that not all members of the household share the same capacities, vulnerabilities, preferences, and decisionmaking power. Gender intersects with other factors, including age, ethnicity, class, ability, sexuality, marital status, and household structure. Not all women are uniformly vulnerable, and men have important vulnerabilities, too. Narratives that women are perpetually vulnerable miss opportunities to support women as agents of resilience and to mobilize men as allies for women's empowerment and resilience. Applying an intersectional and intrahousehold lens aids in moving beyond assumptions about who is vulnerable, enabling more effectively targeting of tailored services and opportunities to different groups.

The following sections summarize the key gender, social, and nutrition dimensions of each element of the GCAN framework.

Exposure to Disturbances

Individuals are exposed to different risks and have different experiences of the same risk. Individuals evaluate and prioritize risks differently according to their perceptions of the severity and likelihood of the risk occurring. As a result, women and men often focus on preparing for and managing different kinds of risks (Adger et al. 2009; Kristjanson et al. 2017).

Due to social and biological factors, individuals' health risks vary over their lifetimes. For example, problems with growth generally occur during infancy and early childhood; adolescent girls face elevated risks of child marriage, early pregnancy, and sexually transmitted infections; and pregnant women face the risks of maternal morbidity and mortality.

Gender roles can influence risk prioritization and responses, such as purchase of insurance (Msangi 2017). In a study in Senegal, women's perceptions of disease and poor infrastructure—such as lack of medical equipment at health centers threatening survival during childbirth—were more severe than men's perceptions (Tschakert 2007). Gendered livelihood activities, including differences in cropping

systems, livestock, and household responsibilities, are exposed to distinct risks.

Finally, risks may interact. For example, the social and economic consequences of separation from or death of a partner are typically more serious for women than they are for men because women risk losing access to land and other assets. These factors can provide strong incentives for women to conform to gender norms in efforts to secure relationships. In addition, the threat of gender-based violence at home or in the community can strongly discourage women from pursuing opportunities to build their own resilience capacities (Le Masson et al. 2018).

Resilience Capacities

Subject to gender and social constraints, individuals have varying abilities to develop and mobilize different resilience capacities. Capacities "filter" the range of response options available to individuals for managing risk. Only certain response options are possible depending on the capacities individuals have access to and their power to exercise them. (Bryan et al. 2017; Vaughan 2018). Individuals with greater resilience capacities have more choice among strategies that protect and improve their livelihoods and wellbeing over the long term.

Absorptive capacity is the ability to minimize exposure and sensitivity to shocks prior to their occurrence (ex ante), and the ability to recover quickly (ex post) when climatic and other shocks occur. Adaptive capacity is the ability to make proactive and informed choices in livelihood strategies in response to changing circumstances, and to seize opportunities to manage risk more effectively in the long term. Transformative capacity is the ability to make changes at the system-level to better manage risk—for example, by removing discriminatory laws, improving infrastructure, or strengthening social protection policy (Frankenberger et al. 2013).

Individuals' current health and nutritional status affects their capacity to respond to shocks and stressors, such as coping with food shortages and illness and the ability to pursue new economic opportunities (Bryan et al. 2017). Violence against women and girls affects resilience capacities through their impact on the health of survivors, the ability to secure and improve livelihoods and access information, and participation in decisionmaking at household and community levels

Box I. Who can use assets as a resilience capacity?

The ability to accumulate, maintain, protect, and use assets is a key factor influencing resilience capacities (USAID 2017). Assets function as a store of value; generate food and income; facilitate investment in more stable, high-yielding livelihood strategies; and influence social status and bargaining power (Meinzen-Dick et al. 2011; Johnson et al. 2016). Yet gender disparities in access to and control over assets mean that different approaches must be taken to effectively support women in building and safeguarding productive assets.

Quality of assets. The types of assets that can be acquired and the mode of accumulating assets differ by gender. Women often receive assets through relationships—for example, when husbands allocate women a plot of land to cultivate seasonally or when family members transfer dowry or, less frequently, inheritance to women. In part due to their reliance on receiving land through others, the land women control is often of lower quality (Perez et al. 2015).

Asset exchange. Assets used to withstand and recover from shocks often need to be converted into another form of value. For example, assets can be sold for cash, exchanged for other goods or services, used as collateral for credit, rented or share-cropped out, or used for food. However, women face barriers in accessing credit and information; restrictions on mobility; and market discrimination when buying, selling, or leasing assets. In Ethiopia, female landowners struggle to negotiate and enforce fair terms with male sharecroppers (Mersha and Van Laerhoven 2018).

Property rights. Women often hold weaker property rights relative to men. Women's rights are fewer and less robust, of shorter duration, and are less likely to be formally recognized or documented (Meinzen-Dick et al. 2017). Weak tenure security can discourage investment in an asset needed to prevent losses due to shocks and stresses. For example, women may not plant trees on their land to avoid asserting long-term claims of ownership (Verma 2001), or lack incentive to adopt new technologies or make investments on the land that could increase resilience (Jost et al. 2015). The ability to decide whether to sell an asset or not (alienation rights) and control over the earnings of the asset (fructus rights) are two important property rights for determining whether women can use an asset for resilience. Without alienation or fructus rights, assets that women nominally "own" may be sold without their consent, or the proceeds may be controlled by another household member (Theis et al. 2018).

Asset divestiture. Quisumbing, Kumar, and Behrman (2018) note that assets with certain characteristics are more likely to be drawn down in the face of a shock—for example, if an asset is less important for generating household livelihoods, the owner has weaker bargaining power within the household, and the asset is easier to sell. These characteristics often describe women's assets: those that may be liquidated to protect larger household assets or men's assets, such as land. Programs can protect women's assets from divestiture by providing alternatives to asset drawdown for the whole household, such as emergency loans, social transfers, and other means of providing liquidity, as well as facilitating asset rebuilding after crises, accessible to different social groups.

Source: Authors.

(le Masson et al. 2018). Additional key constraints for women in building their resilience capacities include more limited access to information and financial services; more limited ability to hire labor; and lower levels of literacy, education, mobility, and available time. Asset strategies are often a core component for building resilience capacities (Box I).

The Decisionmaking Context

Within households, institutions, and communities, each response to a shock or stress crisis is the result of choice and negotiation, albeit among restricted options. Individuals within these social organizations have differing needs, preferences, knowledge, and priorities (Quisumbing and Maluccio 2003; Demetriades and Esplen 2010; Bernier et

al. 2015). Choices include the intrahousehold allocation of food, goods, and labor; governance of shared natural resources such as pasture, water, forests, and agricultural land; community-led preparation and distribution of relief aid; and even input into resilience programming.

Nevertheless, women and women's community-based organizations are routinely excluded from these decisionmaking processes. This sidelines women's specific knowledge and ability to reach certain networks—for example, in determining where to situate a well, identifying vulnerable households, or sharing information with other women (Demetriades and Esplen 2010).

Low participation by women and other groups (due to caste, marital status, clan, and so on) may be the result of

athway	Differential outcomes	Positive and negative examples
. Food production and consumption	Who controls outputs of production (such as sales, use of food), and how do consumption patterns change?	 Women and girls reduce their food consumption during shortages. Food stored in a granary or warehouse is inaccessible to women. Men shift into cash crops or livestock that women previously controlled, displacing an important source of revenue for women.
2. Incomes	Whose finances and control over expenditures are affected?	 New off-farm employment opportunities for women increase their control over income. Men and women are able to access emergency loans. Women take on debt in their names to sponsor husband's migration. Women's assets are sold without women's input. Women are less able to make on-farm investments to support adaptation because available services target men
B. Asset dynamics	Whose asset holdings are affected (whose assets are sold; who acquires new assets; whose assets are invested in, including individual, community, and broader infrastructure assets)?	 Women's assets are sold without women's input. Women are less able to make on-farm investments to support adaptation because available services target mer
l. Labor	Whose time use and energy expenditure changes?	 Some conservation-agriculture practices (such as composting and no till practices) increase women's labor requirements. Drought increases the amount of time women spend ensuring household wellbeing (such as waiting in line at water access points), which reduces their available time for other economic, educational, and social activities.
. Natural resources	Whose access and rights to natural resources change? How does the quality and supply of natural resources change?	 New water-rationing rules for livestock exclude women's small livestock. New rules on forest management reduce women's access to firewood and nontimber forest products, which are important for food security.
. Human capital	How do investments in human capital (such as education and training) change?	Children are removed from school and sent to live with relatives to reduce household costs.
7. Cooperation	How do relationships, social capital and networks, gender norms and gender-based violence, and participation in collective action change?	 Community organizations foster collective action in a time of scarcity. Reduced mobility, greater isolation, security concerns, and displacement can decrease bonding and bridging social capital. Shifts in gender-based violence can occur as men's and women's livelihoods change. Changes in household- or community-level decisionmaking can occur.

explicit or implicit discrimination, including social norms about who can participate, the timing and location of meetings, and exclusive membership criteria—for example, requiring that members own land or be literate (Pandolfelli and Meinzen-Dick 2007). Women's participation may require their husbands' approval. As a result, decisions to build resilience made by households, communities, institutions, and development projects often only represent the preferences of the powerful.

Wellbeing Outcomes

Finally, responses to shocks and stressors can have differential impacts on men's and women's wellbeing outcomes, especially when the decisionmaking context is characterized by large power differentials or exclusion and lack of representation.

The GCAN framework highlights seven pathways through which response trajectories can have differential effects on wellbeing outcomes (Figure I, "Pathways" panel). These pathways can lead to differential wellbeing outcomes in diverse ways (Table 1).

These pathways affect food, social/work, health, and living environments, and have implications for wellbeing outcomes, such as food and nutritional security, gender equality, health, and environmental security. For example, climate change affects the health environment by increasing the risk of communicable disease and threats to health systems, as well as reducing access to markets and health services (Fanzo et al. 2018). Articulating these intermediate steps to outcomes facilitates tracing the impact mechanism, reveals how wellbeing outcomes interact, and allows differential wellbeing outcomes to be identified. For example, in addition to their routine responsibilities of ensuring access to water, sanitation, hygiene, and food, women disproportionately bear the burden of caring for the sick. The labor required for these activities is likely to increase under climate change, potentially reducing time for investment in human capital activities, such as education and the pursuit of other economic activities. Wellbeing outcomes can differ even within households. Measuring wellbeing outcomes at aggregated levels, such as at the household-level, and in the short-term can render these differences invisible.

Unequal wellbeing outcomes in the longer term exacerbate inequality by affecting future resilience trajectories and the ability to maintain and build resilience capacities. For example, even short-term shocks can have long-term, and even intergenerational, implications. Short maternal stature (a consequence of poor nutrition in childhood) is associated with low birth weight and child stunting, which in turn have implications for adolescent nutritional status, thus perpetuating the cycle of undernutrition.

Key Gender and Social Inclusion Questions

Investigating these areas broadens understanding of the differences in the target population's needs, priorities, and constraints related to building resilience. This information can provide the foundation for designing more tailored, locally accepted, and sustainable resilience interventions. Specific areas of inquiry, aligned with each element of the framework, can yield insights for programming (Table 2).

To go deeper, a detailed checklist is also provided (Appendix A). The checklist includes potential questions for assessing, monitoring, evaluating, and learning about gender and resilience dynamics in a given setting. The checklist can be used to reflect on the program's theory of change, risk mitigation strategies, and monitoring and evaluation frameworks, and to identify topics that require further investigation at different points in the project cycle.

The information presented in Table 2 can inform inclusive and equitable resilience strategies in several ways, as described below. These themes can be studied throughout the project cycle to produce learning on how to strengthen gender and social equity, including during program design, risk mitigation planning, implementation, and evaluation.

Evidence on distinct exposure to disturbances can show programs how to reduce risk exposure for all by identifying the risks people consider to be critical, supporting their risk-management strategies, and ensuring that the risk-management strategies being promoted do not exacerbate other risks. Programs can bring stakeholders together to understand the risks that different groups face; come to consensus on the prioritization of risks through multistakeholder dialogues; and partner with other service providers to broaden risk coverage.

TABLE 2. Key areas of inquiry		
Domain of resilience	Key questions	
Exposure to disturbances	 To what risks are different social groups exposed? How do different groups perceive different risks? How do different groups prioritize social, economic, and environmental risks? How do risk management strategies interact? 	
Resilience capacities	 How do resilience capacities vary among different groups of people and why? How does an individual's resilience capacities enable or restrict the range of possible response options for responding to and managing risk? How does differential nutritional status influence physical capacity to respond to shocks and stressors? 	
Decisionmaking context	 What are current response strategies for different groups of people? How do needs and preferences for how to respond to a disturbance vary? Whose priorities do the current response strategies represent? Who has influence in decisionmaking processes within households, community organizations, and projects that choose how to build resilience capacities or respond to a disturbance? 	
Wellbeing outcomes	 How do responses to climate shocks and stressors have different impacts on men's and women's wellbeing outcomes? What are the pathways and environments (health, social/work, living, environmental) that mediate these outcomes? What are the tradeoffs and synergies across different outcomes and time scales? 	
Source: Authors.		

- Knowledge about differential resilience capacities can point to key social and gender-based constraints that need to be addressed to help all groups build and exercise resilience capacities, close gender gaps in capacities, and design appropriate strategies to do so.
- ► Information on the decisionmaking context can reveal household, community, and institutional power dynamics and ways to improve inclusion, representation, and accountability. Programs can build support for equitable gender norms in communities, households, and institutions; remove barriers to and promote women's participation in community organizations; and invite input from different social groups in resilience assessments and program design processes.
- Measuring different aspects of wellbeing at disaggregated levels can indicate tradeoffs and synergies among outcomes and people. Programs can use this information to develop monitoring and mitigation strategies for risks

(such as gender-based violence), to adapt programming if some groups are being negatively affected, and to create accessible accountability mechanisms.

To some extent, responses to shocks and stressors always redistribute power, risks, and rewards. Recognizing these dynamics can help development actors design resilience programs that improve the range of choices and facilitate equitable decisionmaking among these choices, so that more positive wellbeing outcomes are possible for all. In this way, resilience-building initiatives represent significant opportunities to advance gender and social equity, in such a way that leverages the contributions of different groups and strengthens everyone's abilities to thrive despite inevitable shocks and stresses.

APPENDIX A. GCAN Checklist

Exposure to Disturbances

- How are groups of people exposed to different environmental, economic, social, health, and political risks?
- How do health vulnerabilities vary over the life cycle, by gender, for different social groups?
- ✓ How do different groups of people prioritize various environmental, economic, social, and political risks, and how do their perceptions of these risks vary?
- How do risk-management strategies for one risk affect strategies or abilities to manage other risks?

The Climate Signal

- What are the historical climate trends (for example, changes in average temperature, precipitation, and variability, such as the frequency of droughts, floods, and seasonal shifts)? What are the projected climate changes?
- What are the impacts of climate change on key crops, livestock, value chains, or other livelihood activities, and how does this affect the supply of nutrients? What is the magnitude of the event or change?
- ✓ What is the degree of uncertainty in projections? Is downscaled information available for the given area?

System-Level Transformative Capacities

Take stock of the enabling environment for transformative capacity, including national and regional policies for social protection; health systems; infrastructure; agricultural research and extension; climate information services; disaster risk reduction; national adaptation plans; statutory and customary legal frameworks for property rights, family law, and inheritance; labor markets; and migration trends.

Resilience Capacities

- Absorptive capacity. To what extent do different groups of people have the ability to minimize exposure and sensitivity to shocks, and to recover quickly once exposed to shocks? How and why does this differ across groups of people? Examples are provided below.
 - Health and nutrition status. Which groups of people are more vulnerable to shocks and stresses due to their nutritional or health status? What are the health risks related to climate stressors and shocks for different groups of people?
 - Livelihood activities. How do disturbances affect the livelihood activities of different groups of people?
 - Disaster risk reduction. Are there differences in how groups of people are protected by existing infrastructure (public and private, including roads, drainage and flood protection, shelter, water, and sanitation)? To what extent do disaster infrastructure and relief services ensure safety and meet the needs of all?
 - Informal and formal social protection. Who participates in different social protection and risk management institutions, including credit associations, informal lending, collective labor pools, funeral societies, cash transfers, and public works programs?
- Adaptive capacity. To what extent do different groups of people have the ability to make proactive and informed choices in response to change, and to seize opportunities to manage risk long-term? How and why does this vary? Examples are provided below.

- **Asset strategies.** How does access to and control over the assets needed to respond to shocks and stressors vary between groups of people? Investigate gender differences in the following areas:
 - What is the mode of acquiring assets (for example, purchase, rental, access through husband/family members) and how does this affects rights and quality?
 - What are the characteristics of assets held by men and women (for example, quality, value, liquidity, and the risks to which they are exposed)?
 - What are the property rights to the assets held?
 - To what extent do different groups of people have the ability to maintain the value of productive assets (for example, access to livestock health services, adequate feed, and soil conservation)?
 - To what extent do different groups of people have the ability to exchange the asset for other sources of value through access to markets and social networks (for example, rent land or sell livestock)?
 - How does the ability to rebuild the asset after a shock vary among groups of people?
- *Information*. Are there differences in access to information about how risks affect different groups' livelihoods, and information about their options for responding?
 - Does information reach different groups of people at the right time to affect action?
 - Is the information relevant and comprehensible for different groups of people?
 - Do different groups have the resources and power to apply and act on the information received?
 - Is information considered credible and trustworthy by the targeted groups?
 - Does the channel provide an opportunity to ask questions and provide feedback?
- *Time use.* How does access to time and (own, family, or hired) labor differ and affect response options? Does the time burden or scheduling of activities inhibit certain groups' participation?
- **Employment options.** What forms of employment are available to different groups, considering differences in mobility, social norms, safety, education, literacy/numeracy?

Decisionmaking Context

To what extent do women and men have the ability to influence decisions about responding to shocks and stressors, within institutions at different scales (for example, households, community organizations)?

- ✓ **Influence.** To what extent do different groups—at the household, community, program, and policy levels—have influence on decisions about managing risk and responding to shocks and stressors?
- ✔ Perceptions. How do perceptions and knowledge of disturbances vary among groups? What are different groups' perceptions of the risks and possible rewards of different response options?
- ✔ Preferences. How do different groups' preferences and priorities for how to respond to stressors and shocks differ?

APPENDIX A. GCAN Checklist Continued

- ✓ **Gender and social norms.** How do social and gender norms, including beliefs about masculinity and femininity and gender-based violence, affect men's and women's sense of agency, security, and opportunities to participate in institutions?
- Vertical linkages. To what extent do institutions in which men and women are involved have the power to hold officials accountable and to leverage resources for their community?

Responses

What are the commonly observed responses to climate shocks and stresses? Which groups of people choose which responses? Would these responses be considered coping mechanisms, risk-management strategies, or adaptive or transformative actions?

- **Coping** responses generally refer to strategies that utilize available resources, skills, and opportunities to recover from, address, manage, and overcome adverse climate stresses and shocks in the short to medium term.
- **Risk management** strategies involve plans, actions, or policies that aim to reduce the likelihood or impact of future negative events (or both).
- ✓ **Adaptation** involves adjustments to actual or expected climate stimuli in order to avoid harm or exploit potential benefits to return to, maintain, or achieve a desired state.
- ✓ Transformative responses aim to change the fundamental attributes of a system or context to improve wellbeing outcomes, such as actions that address underlying social vulnerabilities.

Wellbeing Outcomes

Every response carries some degree of tradeoffs among people, among outcomes, and across spatial and temporal scales. How do different people experience the costs and benefits of responses to disturbances?

- ✓ Food environment. How do shocks and stressors, and people's responses to them, affect different groups of people's access to different kinds of food, including market access and affordability, diet quality, and the stability of the food supply?
- **Work and social environments.** How do shocks and stressors, and people's responses to them, affect labor and time use, energy expenditure, income levels, assets, social capital, and different people's power levels?
- ✓ Health environment. How do shocks and stressors, and people's responses to them, affect different people's health status, behavior, and access to healthcare?
- Living environment. How is the accessibility, availability, and quality of natural resources and physical infrastructure (including health centers, schools, shelters from disasters, and sanitation systems) affected?

Source: Authors.

References

- Adger, W., S. Dessai, M. Goulden, M. Hulme, I. Lorenzoni, D. Nelson, L. Naess, et al. 2009. "Are There Social Limits to Adaptation to Climate Change?" *Climatic Change* 93 (3/4): 335–354.
- Anderson, A. 2018. Resilience in Action: Gender Equity and Social Inclusion. Produced by Mercy Corps as part of the Resilience Evaluation, Analysis and Learning (REAL) Associate Award.
- Behrman, J., E. Bryan, and A. Goh. 2014. "Gender, Climate Change, and Group-Based Approaches to Adaptation." In *Enhancing Women's Assets to Manage Risk Under Climate Change: Potential for Group-Based Approaches*, C. Ringler, A., Quisumbing, E. Bryan, R. Meinzen-Dick, ed. Climate Change, Collective Action and Women's Assets. Washington, DC: International Food Policy Research Institute.
- Bernier Q., R. Meinzen-Dick, P. Kristjanson, E. Haglund, C. Kovarik, E. Bryan, C. Ringler, and S. Silvestri. 2015. *Gender and Institutional Aspects of Climate-Smart Agricultural Practices: Evidence from Kenya*. CCAFS Working Paper 79. Copenhagen: CGIAR Research Program on Climate Change, Agriculture and Food Security.
- Bryan, E., S. Theis, J. Choufani, A. De Pinto, R. Meinzen-Dick, and C. Ringler, 2017. "Gender-Sensitive, Climate-Smart Agriculture for Improved Nutrition in Africa South of the Sahara."

 Chapter 9 in ReSAKKS Annual Trends and Outlook Report: The Contribution of Climate-Smart Agriculture to Malabo and Sustainable Development Goals. Washington, DC: International Food Policy Research Institute.
- Demetriades, J., and E. Esplen. 2010. "The Gender Dimensions of Poverty and Climate Change Adaptation." In Social Dimensions of Climate Change: Equity and Vulnerability in a Warming World." Mearns, R., and A. Norton, eds. Washington, DC: World Bank.
- Fanzo, J., C. Davis, R. McLaren, and J. Choufani. 2018. "The Effect of Climate Change across Food Systems: Implications for Nutrition Outcomes." *Global Food Security* 18: 12–19. DOI: 10.1016/j.gfs.2018.06.001
- Frankenberger, T., M. Constas, S. Nelson, and L. Starr. 2014.

 Current Approaches to Resilience Programming among

 Nongovernmental Organizations. Building Resilience for Food and

 Nutrition Security. 2020 Conference Paper 7. Washington,

 DC: International Food Policy Research Institute.
- Frankenberger, T., K., Swallow, M. Mueller, T. Spangler, J. Downen, and S. Alexander. 2013. Feed the Future Learning Agenda Literature Review: Improving Resilience of Vulnerable Populations. Rockville, MD, USA: Westat.

- IFPRI (International Food Policy Research Institute). 2015. Global Nutrition Report 2015: Actions and Accountability to Advance Nutrition and Sustainable Development. Washington, DC.
- Johnson, N., C. Kovarik, R. Meinzen-Dick, J. Njuki, and A. Quisumbing. 2016. "Gender, Assets, and Agricultural Development: Lessons from Eight Projects." World Development 83: 295–311. DOI: 10.1016/j. worlddev.2016.01.009
- Jost, C., F., Kyazze, J. Naah, S. Neelormi, J. Kinyangi, R. Zougmore, P. Aggarwal, et al. 2015. "Understanding Gender Dimensions of Agriculture and Climate Change in Smallholder Farming Communities," Climate and Development 2 (8): 133–144.
- Kristjanson, P., E. Bryan, Q. Bernier, J. Twyman, R. Meinzen-Dick, C. Kieran, C. Ringler, et al. 2017. "Addressing Gender in Agricultural Research for Development in the Face of a Changing Climate: Where Are We and Where Should We Be Going?" International Journal of Agricultural Sustainability 15 (5): 482–500. Doi: 10.1080/14735903.2017.1336411
- Le Masson, V. 2016. Gender and Resilience: From Theory to Practice. BRACED Working Paper. London: Building Resilience and Adaptation to Climate Extremes and Disasters.
- Le Masson, V., C. Benoudji, S. Reyes, and G. Bernard. 2018. Violence against Women and Girls and Resilience: Links, Impacts, and Perspectives from the Chadian Context. BRACED Knowledge Manager. London: Building Resilience and Adaptation to Climate Extremes and Disasters.
- Meinzen-Dick, R., N. Johnson, A. Quisumbing, J. Njuki, J. Behrman, D. Rubin, A. Peterman, and E. Waithanji. 2011. Gender, Assets, and Agricultural Development Programs: A Conceptual Framework. CAPRi Working Paper 99. Washington, DC: International Food Policy Research Institute.
- Meinzen-Dick, R., A. Quisumbing, C. Doss, and S. Theis. 2017. "Women's Land Rights as a Pathway to Poverty Reduction: Framework and Review of Available Evidence." *Agricultural Systems*. Doi: 10.1016/j.agsy.2017.10.009
- Mercy Corps. 2014. Rethinking Resilience: Prioritizing Gender Integration to Enhance Household and Community Resilience to Food Insecurity in the Sahel. Portland, OR, USA.
- ______. 2016. Our Resilience Approach to Relief, Recovery and Development. Portland, OR, USA.
- Mersha, A., and F. Van Laerhoven. 2018. Interplay between Planned and Autonomous Adaptation in Response to Climate Change: Insights from Rural Ethiopia. *World Development* 107: 87–97. doi: 10.1016/j.worlddev.2018.03.001

- Pandolfelli, L., R. Meinzen-Dick, and S. Dohrn. 2007. Gender and Collective Action: A Framework for Analysis. CAPRi Working Paper 64. Washington, DC: International Food Policy Research Institute.
- Quisumbing, A., Kumar, N., and J. Behrman. 2018. "Do Shocks Affect Men's and Women's Assets Differently? Evidence from Bangladesh and Uganda." Development Policy Review 36 (I): 3-34. Doi: 10.1111/dpr.12235
- Quisumbing, A., and J. Maluccio. 2003. "Resources at Marriage and Intrahousehold Allocation: Evidence from Bangladesh, Ethiopia, Indonesia, and South Africa." Oxford Bulletin of Economics and Statistics 65 (3): 283-327. Doi: 10.1111/1468-0084.t01-1-00052
- SPRING (Strengthening Partnerships, Results, and Innovations in Nutrition Globally). 2014. Understanding the Women's Empowerment Pathway. Brief 4. Improving Nutrition through Agriculture Technical Brief Series. Arlington, VA, USA: SPRING Project; Washington, DC: United States Agency for International Development.
- Tabaj, K., T. Spangler, L. Starr, A. Anderson, K. Garnier, and T. Griffin. 2017. Integrating Gender into Resilience Analysis: A Conceptual Overview. TOPS Resilience Evaluation, Analysis, and Learning (REAL) Award.

- Theis, S., N. Lefore, R. Meinzen-Dick, and E. Bryan. 2018. "What Happens after Technology Adoption? Gender Aspects of Small-Scale Irrigation Technologies in Ethiopia, Ghana, and Tanzania." Agriculture and Human Values. Doi: 10.1007/ s10460-018-9862-8
- Tschakert, P. 2007. "Views from the Vulnerable: Understanding Climatic and Other Stressors in the Sahel." Global Environmental Change 17 (3/4): 381–396. Doi: 10.1016/j. gloenvcha.2006.11.008
- USAID (United States Agency for International Development). 2012. Building Resilience to Recurrent Crisis: USAID Policy and Program Guidance. Washington, DC.
- _. 2017. Global Food Security Strategy Technical Guidance Brief. Objective 2: Strengthened Resilience Among People and Systems. Washington, DC.
- Vaughan, E. 2018. Resilience Measurement Practical Guidance Note Series 3: Resilience Capacity Measurement. Produced by Mercy Corps as part of the Resilience Evaluation, Analysis and Learning (REAL) Associate Award.
- Verma, R. 2001. Gender, Land and Livelihoods in East Africa: Through Farmer's Eyes. Ottawa: International Development Research Centre.

Sophie Theis (s.theis@cgiar.org), Elizabeth Bryan (e.bryan@cgiar.org), Jowel Choufani (j.choufani@cgiar.org), Claudia Ringler (c.ringler@cgiar.org), and Ruth Meinzen-Dick (r.meinzen-dick@cgiar.org) are employed in the Environment and Production Technology Division of the International Food Policy Research Institute, Washington, DC, USA.

This publication was made possible by the generous support of the American people through the United States Agency for International Development (USAID) and is associated with the CGIAR Research Program on Climate Change, Agriculture and Food Security, which is carried out with support from CGIAR Fund Donors and through bilateral funding agreements. The policy note has not been peer reviewed. The contents are the responsibility of the authors and do not reflect the views of the International Food Policy Research Institute, USAID, or the United States Government.

Copyright © 2018 International Food Policy Research Institute. Licensed for use under a Creative Commons Attribution 4.0 International License (CC BY 4.0)