



Original Contribution

Gender Analysis for One Health: Theoretical Perspectives and Recommendations for Practice

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Abstract: One health emphasizes the interdependent health of humans, animals, and their shared environments and shows promise as an integrated, equitable transdisciplinary approach to important ecohealth issues. Notably, research or programming explicitly examining the intersection of gender and one health is limited, although females represent half of the human population and play important roles in human and animal health around the world. Recognizing these gaps, scholars from the University of Wisconsin-Madison in collaboration with United States Department of Agriculture convened a consultative workshop, “Women and One Health,” in 2016. This paper outlines the workshop methods and highlights outcomes toward shared terminology and integration of frameworks from one health, gender analysis, and women in agriculture. Further, recommendations for education, policy, and service delivery at the intersection of women’s empowerment and one health are offered as important efforts toward the dual goals of gender equality and sustainable health of humans, animals, and their shared ecosystems.

Keywords: Women, Gender, Empowerment, Equality, Transdisciplinarity, One health, Ecohealth, Agriculture

INTRODUCTION AND PURPOSE

One health—the recognition that the health of humans, domestic and free-ranging wild animals, and the environments they share are interconnected—encourages cross-disciplinary thinking, collaboration, and action to solve the

complex issues of individual and population health, food security, ecosystem well-being, and global sustainability that face our world (Kahn 2011; Zinsstag et al. 2012; United States Department of Agriculture 2016; American Veterinary Medical Association 2017; Centers for Disease Control and Prevention 2017). Ecohealth challenges—including rapid population growth, changes in land use, agriculture, and animal husbandry, along with the loss of traditional ecological knowledge—will only increase as we work to feed an

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estimated population of 9.7 billion people by 2050 without severe ecosystem impact (Foley et al. 2011). Accordingly, sustainable agriculture, productivity, and resilience are increasingly viewed as critical issues in international development, food security, and ecosystem health (Altieri et al. 2012; Delonge et al. 2016).

Sustainable agriculture initiatives incentivize and necessitate one health approaches, and the need to systematically consider both the roles and well-being of women. Nearly, half (43%) of the agricultural workforce in developing countries is comprised of females, and their participation in paid and unpaid work is critical to advancing economic growth and the health and well-being of themselves, their families, communities, and countries (The SOFA Team and Doss 2011). Despite these important roles, women face persistent obstacles including: barriers to accessing fertile land and insecure land tenure (Deere and Leon 2003; Whitehead and Tsikata 2003; Odeny 2013); challenges to controlling livestock assets (Kristjanson et al. 2010); restrictions to accessing new agricultural technologies (Doss and Morris 2001); barriers to financial services, leveraging income, and controlling household resources (Duflo and Udry 2004; Fletschner 2008); and the triple work burden across the productive, reproductive, and social spheres (Grassi et al. 2015).

The focus on women's instrumental role in food security and ecohealth occurs in a context of a growing focus on gender equality and rights-based policies and programs. The international development community recognized gender equality as both a human right and necessity in the Sustainable Development Goals (SDGs), essential to achieving not only SDG 5 on gender equality, but progress on all 17 SDGs, including goal 2 (end hunger, achieve good security and improved nutrition to promote sustainable agriculture). While we may recognize that women have the right to have equal access to and control over assets, rights-based arguments are often overshadowed by discussions of economic gain and agricultural productivity. For example, development agencies often make claims such as lack of access to resources results in gaps in production that translate into agricultural yields that are 20–30% lower for women than men (Food and Agriculture Organization of the United Nations 2011; World Bank 2014). These claims address the lost productive capacity of women, without recognizing inequality itself as a lost opportunity. In this paper, our goal is to support both intrinsic and instrumental claims to gender equality central, recognizing that they are not completely separate.

A consultative workshop in 2016 explored the potential contributions of a gender perspective and gender analysis

methods to the one health approach. This paper emanates from that workshop and begins by describing the workshop's purpose, structure and approach, challenges, and conclusions. Next, it integrates insights from the workshop with existing knowledge and literature. Finally, we suggest a model of gender analysis and one health and describe workshop recommendations for furthering the use of one health as a framework for addressing major global challenges to health and well-being. While we focus on women in low-resource settings, we see our work as a starting point and recognize the importance of gender and one health perspectives in higher-income settings as well.

METHODS

The workshop planning team, consisting of practitioners working in fields related to one health, women and agriculture, gender and development, sought to convene a diverse group of global experts for a unique "Women and One Health Workshop." Invitees were selected to represent a broad cultural and geographic diversity to examine the multiple opportunities and constraints that women face in actively contributing to agriculture, animal health and welfare, human health and disease prevention, family economics, and the interdependent well-being of animals, humans, and the ecosystems they share. The workshop was convened in April 2016. Participants included a former Minister of Agriculture from Liberia, an African Women in Agricultural Research and Development (AWARD) Fellow from Ghana, a veterinarian from Argentina, a horticulture expert from Guatemala, an agriculturalist from rural Wisconsin, veterinarians and one health experts from the Centers for Disease Control and Prevention (CDC) and United States Department of Agriculture (USDA), and a range of experts from universities across the United States. Participants, approximately 40 in all, brought their knowledge, skills, values, and beliefs to the conversation from a range of backgrounds, including veterinary medicine, epidemiology, farm credit, horticulture, international development, education, global public health, the arts, gender and women's studies, governance, and cooperative extension.

The workshop was interactive and participatory, starting with four framing presentations: (1) an overview of one health; (2) a summary of the USDA agenda related to women in agriculture; (3) an outline of the basic principles of gender analysis; and (4) a description and discussion of the Women's Empowerment in Agriculture Index (WEAI), which is

being used for assessment and program development around the world. Afterward, each participant delivered a 3-min flash talk outlining their expertise, experience, and perception of the most pressing issues around gender and one health. Participants self-organized into small groups discussing: (1) gender and zoonotic disease prevention; (2) the WEAI; (3) the role of gender in responding to disease outbreaks; (4) intergenerational partnerships; and (5) women and the professions. Each group identified a scribe to capture major points in discussion and report these to the larger group. The plenary discussion followed shared highlights from the discussion and focused on priorities and next steps in the areas of education, service delivery, and policy. Participants also discussed the need for common terminology and an integrating framework. Summary recommendations were developed using an approach informed by the consensus workshop model (Sabir et al. 2006). The authors further analyzed workshop notes to identify observations and recommendations most consistently voiced by the participants. These themes were complemented with references from the literature to add context and validity, and to facilitate future work.

RESULTS

Creating a Shared Vocabulary and Framework for Research and Practice

While all participants were experts in either one health, women and agriculture, or gender studies, participants quickly noted that few were fluent in all of these areas. Participants from agricultural backgrounds required clarification about how plants, crops, soil, and insects (as opposed to animals) fit into the one health approach. And terms with important distinctions such as “sex,” “gender,” “multidisciplinary,” and “transdisciplinary” were sometimes used interchangeably. Here, we present key terms and concepts that arose and offer a provisory conceptual model that can be a starting point for integrated discourse and collaboration.

One Health: Toward a Transdisciplinary Approach to Health

The term one health refers to the interdependence of the health of humans, domestic and free-ranging animals, and their shared environments (including naturally occurring vegetation and cultivated crops). Participants agreed the term “animal” might be clarified as including aquatic and terrestrial animals, insects, and birds. “Environment” was

defined broadly to include soil, water, and plants of all kinds, as well as factors related to geography, climate, and contamination or other forms of degradation or threats to ecohealth. Participants also noted that the diversity implicit in the term “human” could be specified to include genetic and biological characteristics like age, sex, and health status, as well as contextual factors, like geography and culture, and socially constructed traits like race or gender. Overall, there was broad consensus that one health derives its power from the focus on the interdependence of human, animal, and environmental health.

Early participant discussions noted that powerful associations exist between poverty, hunger, domesticated livestock, free-ranging animals, and zoonotic diseases (infectious diseases shared by animals and people) (Grace et al. 2012). Additionally, women living in rural/poverty settings can be more susceptible to zoonotic infections (e.g., avian influenza) due to increased opportunities for exposure and reduced resources for prevention and treatment (Theiler et al. 2008). One health embodies a collaborative, multidisciplinary, and multisectoral approach, bringing together people from different professional disciplines and specializations. One health also aspires to an integrated approach that increasingly requires *transdisciplinary* collaborations—“fully integrat[ing] the theory, methods, and questions of different disciplines to address problems that cannot be captured within existing disciplinary domains” (Conrad et al. 2013, p. 212).

After discussion, participants recognized that social scientists and gender experts must not be excluded from one health work if it is to achieve its maximal potential. They further supported the need for transdisciplinary approaches that deemphasize disciplinary boundaries so that collaborators can “accept and adopt epistemological perspectives unique to the collaborative effort and distinct from those of any of the cooperating disciplines” (Edigenbrode et al. 2007, p. 56). The appendix example related to Chagas disease in Guatemala was offered as an example of a gender-related transdisciplinary approach to solve an infectious disease problem that included people with expertise beyond traditional biomedical disciplines (Appendix Textbox 1).

Sex, Gender Analysis, and Empowerment

While the terms sex and gender are sometimes used interchangeably, they have different meanings, so participants spent time ensuring a shared understanding of these terms. Sex is defined by the biological and physiological

differences between women and men. In contrast, gender is defined by socially constructed roles, behaviors, characteristics, and attributes considered culturally appropriate for women and men (Moser 1989; Pavlic et al. 2000, p. 6; Sen et al. 2002).

Of note, misunderstandings also occur in research and practice. Often, it is assumed that research can be considered gender research if the data are disaggregated by sex. While this is an important first step in gender analysis, fully realized gender analysis goes further by ensuring that *gender-sensitive indicators*—those that measure aspects of life where gender disparities are experienced—are used. In addition, quality data *about* women and gendered experience should further be complemented by participatory research that gives voice to women and men about gender roles and disparities. Gender analysis frameworks range from role-based models like the Harvard framework developed in the mid-1980s (Overholt et al. 1985) to models that emphasize planning (Moser 1993), to models that focus on power relations (Kabeer 2001). Gender analysis has evolved into an important disciplinary expertise with a broad range of methods and tools (UNDP 2001) that can be carried out by researchers of any sex or gender. The workshop presentation highlighted key features of gender analysis including role definition and relations, understanding of discrimination, attention to both equality and equity, gender mainstreaming efforts, and gender impact assessment.

Gender analysis is deeply associated with power relations and empowerment. While scholars have defined and applied empowerment in several ways (Oxaal and Baden 1997; Khurshid 2016), we chose Kabeer's definition as a starting point: empowerment is "the expansion in people's ability to make strategic life choices in a context where this ability was previously denied to them." (Kabeer 2001, p. 19). Kabeer makes clear that empowerment is not just about expanding choice, it is more fundamentally about the interrelationship of resources (conditions), agency (process), and achievements (outcomes), which are inextricably linked to power and together constitute the potential to convert choice into transformational change. This definition is broadly used by development practitioners, including the development and implementation of the WEAI, a survey-based index primarily used to track changes in women's empowerment that are a direct or indirect result

of the US government's interventions under the Feed the Future (FtF) initiative (Alkire et al. 2012, p. 1; FtF 2016). This index assesses women's empowerment in five domains: (1) agricultural production, (2) resources, (3) income, (4) leadership, and (5) time use. The index offers indicators that can be compared across settings. Preliminary research related to the WEAI was presented during the workshop; the results underscored that women's economic conditions, while important, are not alone enough to foment gender equality (Friedson-Ridenour et al. 2019).

The Ghana case (Appendix Textbox 2) underscores the need for more participatory and holistic gender analysis as gender and one health research move forward. Insights from one health and its focus on long-term ecohealth, if combined with rigorous gender analysis, might enable development of metrics that are more inclusive of overall well-being, rather than limited to the monetized aspects of the agricultural sector.

Toward a Conceptual Model for Gender, Agriculture, and One Health

The dialog among participants clearly identified that the frameworks under discussion could reinforce and complement each other; one health emphasizes holistic interdependence and gender analysis identifies cultural constructs that might enhance or inhibit equality. Combined with agricultural and ecohealth frameworks, a specific context for transdisciplinary work and initial measures of success are possible. During the workshop, the participants began to discuss this, and what a transdisciplinary model for research and practice might look like. While this workshop was just the beginning of the process of bringing these different languages and frameworks together on the one hand, we realized that we were a literal embodiment of the kind of transdisciplinary community we hoped to create. The following graphic representation illustrates a starting point for integration of models (Fig. 1).

As this model suggests, integration of a gender lens and one health approaches could enhance well-being through transdisciplinary collaboration at the intersection of one health, gender analysis, and women and agriculture frameworks.

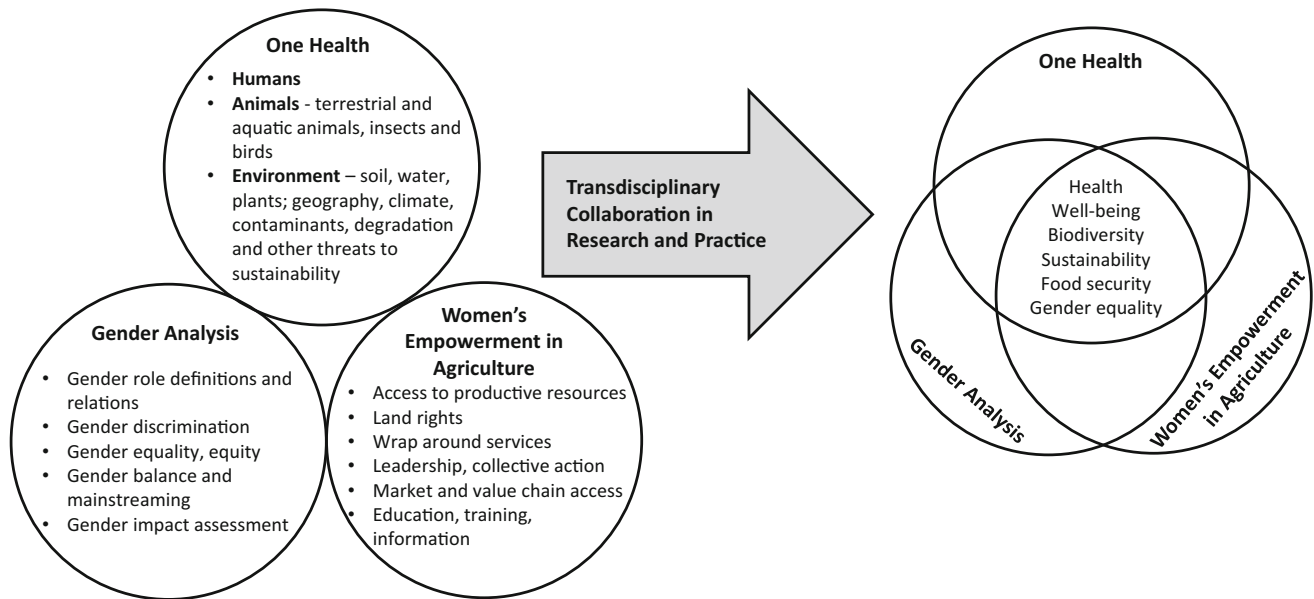


Figure 1. Toward a framework for gender and one health.

Recommendations for Education, Policy, and Service Delivery

The workshop resulted in recommendations at the interface of gender and one health related to education, policy, and service delivery.

Gender-Inclusive One Health Education

Participants concluded that there are at least two pressing issues to address in education and training related to one health. First, including gender analysis in one health education and training programs is vitally important. Second, we need to address the persistent obstacles faced by women in accessing and thriving in educational and training opportunities. Participants agreed that a gender-responsive approach to curriculum development should be applied in fields as diverse as food security and safety, agricultural market chains and economics (at local, regional, national, and international levels), ecohealth and zoonotic diseases, medical and cultural anthropology, global health, gender-based social justice (especially in rural settings), and many more.

To facilitate an integrated curriculum and pedagogy, a consensus set of competencies relating gender equality to one health should be developed and communicated from local to regional to national/international levels of education, agriculture, and health organizations. Several compilations of one health competencies have been developed recently, including those from the Bellagio Working Group (Frankson et al. 2016), the Stone Mountain Meeting

Training Workgroup (Stone Mountain Meetings Workgroups 2012), and the USAID RESPOND Project's Global One Health Core Competency Workgroup (Global OHCC Working Group 2013). All three sets share overall topic domains (Hueston et al. 2014; Frankson et al. 2016) relating to management, communication and informatics, values and ethics, leadership, team and collaboration, roles and responsibilities, and systems thinking (Frankson et al. 2016). However, none explicitly include gender analysis or address the intersection of gender and one health.

Participants made eight additional recommendations related to education, which emphasized inclusion, participation, and ethical practices. The specific strategies and their descriptions are summarized in Table 1.

Policy Development and Service Delivery

Workshop participants extensively discussed the need for integrative approaches and consideration of factors such as sex, gender and age in policy development and delivery of services for disease surveillance, prevention, and control, as well as those for emergency preparedness and response to natural disasters and other threats to health and well-being. Discussions emphasized how females and males are differently affected by and vulnerable to risks due to distinct biological, economic, social, and political realities. Sex and gender create important differences in susceptibility, exposure, and outcomes to infectious disease (WHO 2007). Females are particularly vulnerable to disease outbreaks,

Table 1. Recommended Educational Strategies to Support Gender and One-Health Integration.

Strategy	Description
1. Mentoring programs	Use mentoring programs for women (such as the AWARD program) to build technical and leadership skills to achieve a more diverse workforce in which women can be sustainably influential at local, regional and national levels
2. Learner-centered training	Adopt learner-centered approaches in both formal and nonformal one-health education and extension outreach training. Lessons might be drawn from the USAID's Farmer to Farmer program, which creates learning exchanges among government, industry, and NGOs (USAID 2018)
3. Visual, multi-lingual, and low literacy learning materials	Anticipate the needs of diverse target audiences including, when needed, extensive use of visual learning aids to reduce literacy impediments and embrace local languages
4. Valid metrics	Measure progress with indicators developed through community-based participatory methods that include local women's voices in the creation of content and related evaluation measures
5. Funding and promotion of women as trainees	Women should be abundantly included as trainers. To achieve this, it will be important to develop evidence-based practices for equitable hiring of women
6. Prepare instructors about how to avoid gender bias	All trainers, male and female, should be instructed on how to effectively teach and empower female students alongside their male peers, thus preparing all students for a professional life that is inclusive and free of gender bias
7. Safe learning environment	Learning environments should be gender-responsive, safe, culturally appropriate, and inclusive, with policies and practices to address gender bias and sexual harassment
8. Wrap around services	When training is offered, attention should be paid to wrap around services such as day care and transportation to ensure that participants and trainers with parenting responsibilities are able to participate

including zoonotic and vector-borne diseases; examples include immune suppression due to pregnancy (Jamieson et al. 2006), increased exposure due to occupational or family roles (Fawole et al. 2016), deleterious pregnancy outcomes (Brasil et al. 2016), and prolonged presence of the Zika virus in the mother's body (Suy et al. 2016).

Gendered roles in agricultural communities, because they are culturally constructed, are frequently context- and location-specific, but they are also dynamic, changing across the lifespan in response to shifting sociocultural norms and in relation to wider political and economic climates (Carney and Watts 1991; Abdelali-Martini and De Pryck 2014). These gender-based roles plus biological differences also cause wide-ranging, often disproportionate impacts to women during natural disasters, environmental degradation, and other one-health challenges (Denton 2002; United Nations Women Watch 2009; McDonald 2011; World Health Organization 2007). Women experience increased risk of death, violence, sexual and reproductive health issues, lack of access to health care or self-care facilities, and reduced compensation for losses (Alam 2014; Chew and Ramdas 2005; Goodman 2016; Neumayer 2007; WHO 2002). Gender-based differences in the use of health facilities can skew surveillance data on both inci-

dence and case fatality rates, if not taken into account and investigated sufficiently (WHO 2011, pp. 43–44).

Surveillance efforts are improving, following calls to include and disaggregate data by sex as well as factors such as pregnancy status and common activities and occupations (WHO 2011, pp. 41–42; 2007, p. 13). And yet, women still suffer disproportionately from infectious diseases and natural disasters (Alam 2014; Fawole et al. 2016; Goodman 2016), indicating much work remains to improve service delivery. Compounding and underlying these issues are the enduring problem that women's voices appear to be almost wholly missing in both local and global conversations about how preparedness and response approaches should be structured. And further, formal gender analysis, which could provide great explanatory insight as well as generate innovation, is rarely done.

Workshop participants identified the need to build a toolkit that provides one health and gender indicators and domains for use in planning program strategy. This toolkit would facilitate rapid definition of the problem, enable an algorithm approach to service delivery, and use participatory methods for baseline assessment of capabilities, evaluation and prioritization of risks, and development of response and communication plans that promote re-

siliency. A measurable action and impact might include gender- and culture-specific outreach methods to ensure women have the information they need before disaster strikes. Further, embedding gender and cultural opportunities, requirements, and metrics into emergency preparedness, one health government platforms, rapid response teams, and other formalized structures for prevention, detection, and response would further enable the ability to measure progress.

Finally, workshop discussions highlighted the need to evaluate existing gender and one-health assessment tools (Errecaborde et al. 2017; Global Health Security Agenda 2017), determine how these assessments are being used to inform decisions, and identify opportunities for adapting the tools and developing markers to cross-inform gender, culture, and one health. Similarly, we must identify opportunities to incorporate specific, meaningful gender and cultural metrics into existing international assessments, such as the WHO's International Health Regulation Framework and the World Organization for Animal Health Performance of Veterinary Services.

DISCUSSION

Our workshop highlighted a pressing need for a more inclusive and gender-responsive approach to one-health education, policy, and service delivery and outlined a few key areas where rapid gains may be possible.

Building a shared vocabulary and integrative framework when exploring and working on broad issues across disciplines and sectors is critical, particularly when the topics are contested within and across fields of practice (Klein 2004; Edigenbrode et al. 2007; Conrad et al. 2013) or when terms or concepts serve as buzz words or signifiers in particular fields, such as “empowerment” in the field of international development (Cornwall and Brock 2005). Our workshop emphasized that creating this shared language is a critical first step in integrating efforts across gender and one health initiatives.

Additional efforts are needed to better understand how to increase the leadership and capacity of women to recognize and manage the gendered dimensions of risks at the intersection of human, animal, and environmental health and well-being. Our consultative meeting strongly suggested that this will require a transdisciplinary effort to develop a more robust understanding of how “economic, cultural, religious, legal, and political aspects influence the ability of women to fully exercise control over their envi-

ronment, their health, and the health of their children, animals and plants” (Bagnol et al. 2015, p. 64). Future work could benefit from rigorous gender analysis and more explicit discussions about what is meant, for example, by women’s empowerment in one-health strategies versus gender-defined roles in one health.

Women’s empowerment in agriculture—and in eco-health challenges ranging from infectious diseases to responding to complex emergencies—is both about realizing gender equality as a right (an intrinsic value that will benefit women directly) and a critical means to achieving desired outcomes related to societal development and well-being (an instrumental value where women’s contributions lead to overall benefits, yet might or might not lead to decreases in gender disparities). Clarity around what these different perspectives and approaches mean is vital to future policy and program decisions in efforts to optimize food security/safety and health and well-being more broadly.

A frequently overlooked, but critical next step is to consider how to optimally include men in discussions about the intersection of gender and health, and how to encourage and support men to act in solidarity as allies alongside women in the quest for women’s empowerment and gender equality in health and well-being in programs, policies, and communities (Barker et al. 2007; Pawlak et al. 2012). This is particularly important in countries and cultures where nontraditional gender identities are taboo and/or illegal.

While one health has always looked across disciplinary boundaries, certain fields are still consistently included, while others are almost entirely overlooked. For example, those with biomedical and ecohealth specializations have historically been widely represented within one health work, while social scientists (sociologists, anthropologists, psychologists/mental health providers, gender specialists) engineers, agriculturists, legal scholars, economists, financial experts, and philanthropists are less readily present at the “one health table,” and sometimes not included at all. Through more transdisciplinary efforts, we can begin to evaluate the impact of gender policies on health and well-being at the human–animal–environment interface; understand and analyze implementation of existing policies at the local, regional, and national levels; develop protocols for advocacy and legal avenues for promotion of existing policies; and identify leverage points for changing gender approaches for both funders and implementers.

In order to truly fulfill the promise of one health and the call to action under the SDGs, we must create an effective framework for identifying and linking community needs and

priorities with local, regional, and national policies and services in a way that includes gendered dimensions of health and well-being and community resilience at the human–animal–environment interface. Critically, women’s voices must be incorporated from planning to implementation of any new policies/programs, as women are best positioned to understand the challenges they face and potential solutions. Because gender roles are not immutable, it is critical to further explore and better understand what concepts exist for gender-transformative change (UN Women 2017) in one health, taking as a starting point, concepts such as equality and equity in women’s roles in agriculture.

The human–animal–environment interface is not tangential, but rather intimately connected, to equality and empowerment for women, and a gender and one health approach can work synergistically toward the health and well-being of all.

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APPENDIX

See Textboxes 1 and 2.

Textbox 1. A multidisciplinary approach to fight Chagas disease in Guatemala.

Approximately 6 million people, mostly in Latin America, are estimated to be infected with *Trypanosoma cruzi*, the parasite that causes Chagas disease, which can lead to life-threatening heart failure if left untreated. An insect vector commonly referred as the “kissing bug” carries the parasite and can transmit it to humans, particularly those living in adobe huts with cracks and crevices where bugs can hide during the day and come out at night to feed. Other modes of transmission include blood transfusions or organ transplants from infected donors, consumption of food contaminated with *T. cruzi*, and passage from an infected mother to her baby during pregnancy or childbirth. Effective treatment can only happen during the acute phase of infection, which often goes unnoticed due to its mild symptoms. The onset of clinically noticeable disease usually occurs many years later, and specific treatment at that stage is largely ineffective

Conventional approaches to vector control have relied on spraying dwellings with residual insecticides and repeated spraying is often necessary due to reinfestation from bugs living in the surrounding areas. An alternative, ecohealth approach was implemented with substantial success in the control of Chagas disease in Guatemala. A multidisciplinary team consisting of scientists, community leaders and government representatives, designed a gender-sensitive and sustainable approach that combined community education, community participation, and home improvements—particularly of the walls and floors—to make homes less habitable for the parasites. Importantly, an anthropological survey to understand women’s traditional roles in wall plastering for home improvement was critical to the successful implementation of this community-level intervention. The efficacy of the home improvement technique relied on three key elements: (1) the expertise of the team of engineers who tested and selected the best combination of local materials to make a cost-effective mixture; (2) building local capacity for remediation by training community leaders, vector control specialists, and ministry of health representatives in home improvement; and, (3) reduction in the burden on women in home improvement duties by adopting new plastering techniques that last five times longer than the traditional approaches. Additional keys to success were keeping farm animals outside the home, and supporting and empowering women through entrepreneurship programs to help improve household economies. Future efforts are being discussed to promote ecological restoration of deforested areas surrounding the communities in this project, which may provide habitat for the insect vectors and physical barriers to prevent house infestations

Textbox 1. continued

This approach to health, that incorporated the epidemiology of Chagas disease as well as ecological, socioeconomic, cultural, and gender contexts was able to effectively reduce Chagas transmission in Guatemala and is now been implemented in other countries in Latin America (for more information see: Monroy et al. 2014; Lucero et al. 2013; and, <https://www.chagasecohealth.com/>)

Textbox 2. Gender analysis and the WEAI in rural Ghana: a pilot study.

A qualitative pilot study of women's empowerment in agriculture was conducted in two farming communities in the northern region of Ghana where the WEAI model is being used as a tool for measurement and evaluation. Through site visits and interviews with women, this study showed that while women's economic status is linked to their autonomy and agency, WEAI measures did not take into account the larger context of women's lives. Without this context, well-intentioned agricultural empowerment efforts could have high social costs that make women more, not less vulnerable. For example, while money was identified as an important factor in women's economic security and functioned as an enabling factor for women's increased participation in agriculture, increased income itself did not overcome entrenched gender norms and practices to produce "empowerment." As women described their lives, relationships, and participation in the agricultural sector, it became clear that money was not automatically linked to increased autonomy. Also, access to services, such as valued plowing assistance, could be limited for women by their gender, even if they had the needed funds. Further, the concept of decision making was nuanced by required spousal or family "permission" to make certain kinds of decisions. There were also examples of women experiencing increased vulnerabilities related to economic success—for example, risks associated with travel, or being identified as a "witch." Finally, and most elementally, it was difficult for researchers to translate the term empowerment in the first place—terms in the local language could connote assistance, independence or autonomy, depending on which word was chosen, but the precise mix intended by the word empowerment was harder to convey. (Friedson-Ridenour et al. 2019)

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