

# *Feminization of farming, food security and female empowerment*

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## **Feminization of Farming, Food Security and Female Empowerment**

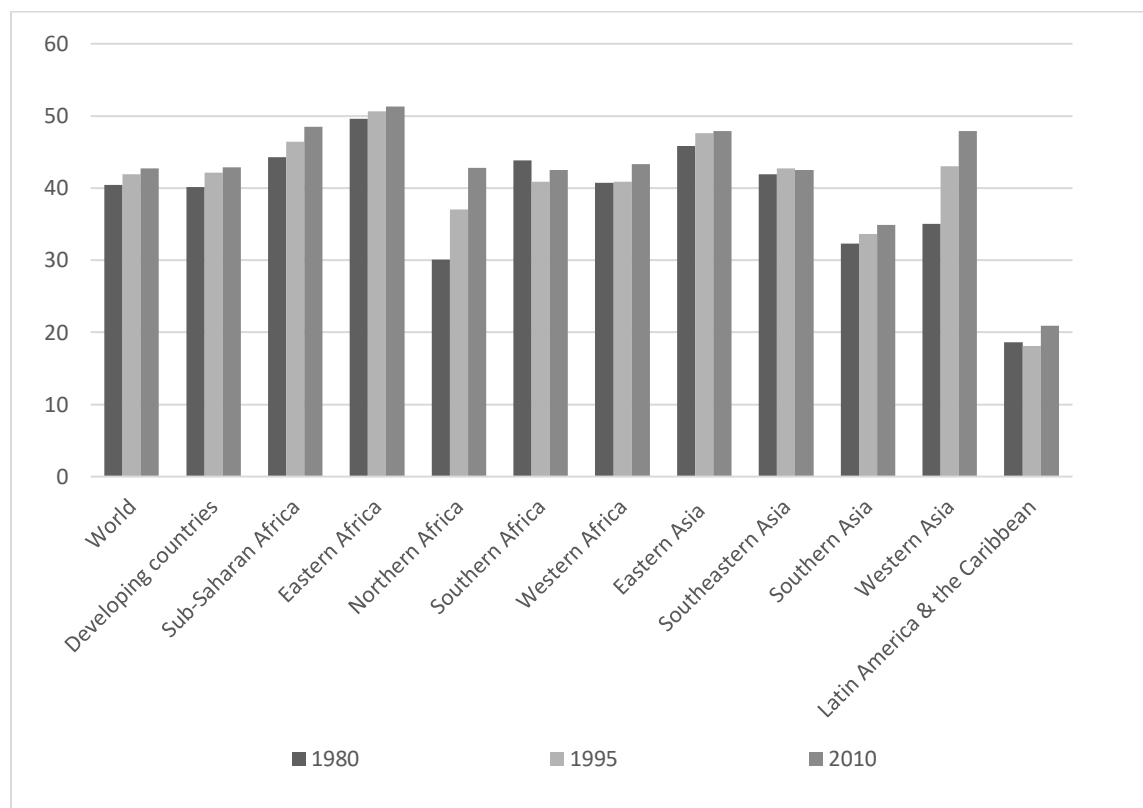
**Abstract:** While female labour force participation is on the decline in many parts of the developing world, female participation in agriculture is increasing worldwide. Our review of the literature however confirms that employment in farming has not yet brought about a transformation in female lives and therefore does not seem to serve as a pathway to empowerment. Our review also highlights that empowered women improve household food security. In the context of these two findings, we conclude that if the feminization of farming is to improve female empowerment and also household food security, it will require critical policy interventions in the agricultural sector and beyond. These would include the monetization and economic recognition of female labour and a much-needed shift in social norms towards encouraging shared responsibility between men and women within marriage. Only when women's employment in farming becomes a means to their empowerment will female participation in agriculture serve as an effective path to global food security.

**Keywords:** Food security; Female Labor Force Participation; Gender Inequality; Gender Empowerment

## 1. Introduction

Globally, women’s presence in agriculture is on the rise (World Bank 2016; Slavchevska et al 2019), with women working as farmers, unpaid workers on family farms as well as labourers in other agricultural enterprises (FAO 2011)<sup>1</sup>. Between 1980 and 2010, women’s share of the economically active population in agriculture increased across all developing country regions (Figure 1). In 2010, women accounted for, on average, 43 percent of the agricultural labour force in developing countries. As developing economies shift from farming to manufacturing, more men are taking up manufacturing jobs or migrating overseas, leaving farming activities to women. Women’s contribution to agricultural work varies significantly within the developing world. Country-specific data suggests that between 60%-98% of economically active women in South Asia are in farming<sup>2</sup>. This is also true for many countries in Southeast Asia and Sub-Saharan Africa (Ali et al 2016). These figures and trends support the “feminization of agriculture” hypothesis<sup>3</sup>.

**Figure 1:** Trends in female share of economically active population in agriculture (%), 1980-2010



**Source:** Authors based on data extracted from FAO (2011).

<sup>1</sup> Female agricultural labour force includes those involved in food and cash crop, aquaculture and livestock production at all levels, subsistence and commercial (FAO 2011).

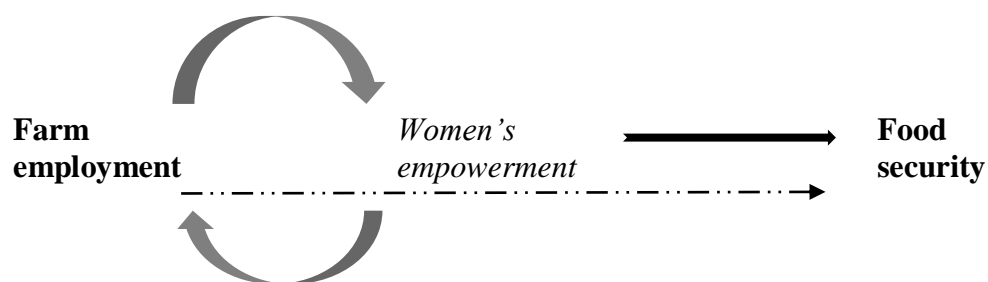
<sup>2</sup> <http://www.fao.org/3/af348e/af348e06.htm>

<sup>3</sup> The alternative measures of feminization are: (a) share of women in agricultural employment (as a percentage of both sexes), (b) the share of female managers/decision-makers in agriculture out of both sexes and (c) share of women’s labor hours in agriculture (World Bank 2016). However, comparable time series data on these indicators is unavailable.

In this commentary, we provide an overview of recent and emerging literatures on the link between women’s employment in farming and their empowerment on the one hand, and the impact that these factors have on household food security, on the other. Based on this, we contest that the rising share of women in agriculture will neither solve the global food security problem, nor will it empower women. For the feminization of farming in Asia’s transition economies to unleash a virtuous cycle -- bring about a society wide transformation in women’s lives and improve global food security – it would require critical policy interventions in the agricultural sector and beyond.

Empowerment is important because empowered women serve as a social multiplier, providing a voice to other women (Akter & Chindarkar 2020). It also has intrinsic value in increasing women’s life satisfaction (Hossain et al 2019). However, research shows that women in developing countries like Bangladesh are about twice as disempowered as men<sup>4</sup>. Lack of group membership and the inability to speak in public continue to remain key sources of dis-empowerment for women. This limits welfare gains from farm employment. These observations are summarized in Figure 2 which helps visualize the sequential linkages between women’s agricultural employment, empowerment and food security.

**Figure 2:** Female Farming and Food Security: Conceptual Links



**Source:** Authors.

The broken arrow captures the direct effect whereby women in agriculture help increase productive capacity whether or not they are empowered. It should be noted, of course, that this is only one way in which food security could be improved. We then conceptualize empowerment as the connector or the missing link between female farming and food security. The advantage with empowerment is that it heightens the direct effect but, as we will see below, it also facilitates other pathways. However, this process is non-linear: the employment-empowerment link is characterized by reverse causality, which makes the direct link (i.e. employment to food security) uncertain. In other words, without baseline empowerment, farm employment not only limits the scope for additional empowerment through agricultural work, it also weakens the link between female farm work and food security.

<sup>4</sup> [https://cg-281711fb-71ea-422c-b02c-ef79f539e9d2.s3.us-gov-west-1.amazonaws.com/uploads/2018/03/Bangladesh-WEAI-Results-Final\\_March8.pdf](https://cg-281711fb-71ea-422c-b02c-ef79f539e9d2.s3.us-gov-west-1.amazonaws.com/uploads/2018/03/Bangladesh-WEAI-Results-Final_March8.pdf)

## **2. Farming and Women's Empowerment**

It is commonly accepted that economically gainful employment may increase women's bargaining power at home (Anderson and Eswaran, 2009) and therefore helps to empower women, a 'prerequisite' to achieving SDG 1. Empowered women farmers can also help address a wide range of challenges to achieve nutritional security and dietary diversity. However, the extent to which agricultural work helps to empower women remains open to question.

Most women involved in the agricultural sector in South Asia are unrecognized and underpaid (Gillespie et al 2019). Women's potential contribution is undermined in many ways. First, women often do not own the land they till and, in Sub-Saharan Africa, they also manage plots that are less productive (Ali et al 2016). Second, women farmers face credit and resource constraints of various kinds as well as reduced access to information and extension (Kabunga, Dubois and Qaim, 2012; Peterman, Behrman and Quisumbing, 2014), making them less likely to adopt new agricultural technologies. Of course, this is not universally the case and, in Southeast Asian countries such as Myanmar, Thailand, Indonesia and the Philippines, there is no gender difference in access to productive resources (e.g. land and inputs); women even have greater control over household income than men (Akter et al 2017). Third, men often specialize in cash crops while women are engaged in food crops cultivation (Gladwin et al. 2001; Hill and Vigneri (2014); Hossain 2019). In most parts of Southeast Asia, therefore, the higher participation of women in agriculture has revealed itself in the feminization of poverty, partly because women in poor households have limited livelihoods options and are entering agriculture under constraints. Thus, despite their contributions to agricultural output in South Asia, research confirms a significant gender gap in empowerment within agricultural households (Hossain et al 2019). Given the shortfall in baseline empowerment<sup>5</sup>, most women entering into agriculture, either as wage workers or micro-entrepreneurs, are not maximizing their contribution.

Given the above constraints and disadvantages affecting women, research shows no clear relationship between farming and women's socio-economic empowerment (Pattnaik et al 2018). This however does not imply that empowerment of women farmers is irrelevant. On the contrary, it matters critically for food security as well as female well-being (Ramachandran 2007).

## **3. Women's Empowerment and Food Security**

Food security is a key component of the 17 Sustainable Development Goals (SDGs) of the Post-2015 Development Agenda. SDG 2 emphasizes the inter linkages between supporting sustainable agriculture, empowering small farmers, ensuring healthy lifestyles and promoting gender equality (Pérez-Escamilla 2017)). While a universal measure of food security remains elusive, there are many shared aspects (Smith, Rabbitt, and Coleman-Jensen (2017). At the household level, food security involves: (a) food production through farming (b) allocation of income to food and (c) ensuring adequate protein, energy and micronutrients for all household members (Herforth 2013).

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<sup>5</sup> There are considerable regional differences in baseline empowerment. Compared with East Asia and Africa, females are subject to patriarchal traditions in South Asia and a lower participation rate in the labor force. They also have lower schooling and to some extent, lower participation in household income generation activities (Dolan, 2001).

Women might be involved in many of these stages. The linkages between women and food are multi-dimensional, arising from women as producers, consumers, home-makers as well as social agents.

The feminization of farm labour has meant that women are contributing labour resource to food production and therefore directly contributing to food security. Empowerment of women in this context helps increase productivity because with women's involvement in production, there are now two adults within the household whose cognitive and decision making capabilities are focused on production (Seymour 2017). This enables households to make better decisions regarding what to produce on family farms and how to produce it. There is evidence that women's empowerment in agriculture and a reduction in the gender-gap in empowerment increases production efficiency (Anik & Rahman 2020). However, women's contribution to food security does not involve only their contribution to production but also the decisions they make with regard to the distribution and consumption of food within households. Around the world, women have traditionally been in charge of food preparation, procurement, processing and allocation within the household (Doss, Meinzen-Dick, Quisumbing & Theis 2018). Thus, even in patriarchal societies, women have traditionally enjoyed some control over decision-making in feminine-coded domains such as food and cooking but not in major expenditures and financial transactions (Yount, 2005). This has meant that they are able to influence how food is distributed across household members as well as improve food quality and composition.

Many studies to date (e.g. Houston & Huguley, 2014, Thomas, 1990; Holland & Rammohan, 2019; Hossain, Asadullah, and Kambhampati, 2021) have argued that women's empowerment improves household welfare. To the extent that food security is a primary aspect of household welfare, these studies would lead us to conclude that empowered women in agricultural households would improve food security. In sum, women's influence over food procurement, preparation and allocation as primary caregivers combines with their presence in farming to create optimism in relation to global food security.

#### **4. Pathways to Empowering Female Farmers**

Women's involvement in agriculture will help improve agricultural production and therefore household food security. However, if it is mediated by empowerment, the impact on food security could be significantly greater. Having said this, it is not clear whether employment in farming leads to empowerment. It has long been clear that it is not employment alone but employment outside the household which enhances women's voice and agency (Kantor 2003; Anderson & Eswaran, 2009). There are also institutional and legal barriers as well as cultural norms that might keep women out of the labor market (Asadullah and Wahhaj 2019; Jayachandran 2020), forcing them to work within family farms and enterprises. Currently, most working women in rural South Asia are involved in family farms with the proportion employed without pay being on the rise in the agricultural sector<sup>6</sup>. Unpaid farm work of this kind reinforces the double burden of childcare and employment, reducing women's leisure time, without any improvement in their autonomy. Interventions that empower women at the expense of male members can also disturb the power balance at home and outside in the community. Ensuring equal sharing of the time burden within the household remains an important challenge.

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<sup>6</sup> <http://ebrary.ifpri.org/utils/getfile/collection/p15738coll2/id/132720/filename/132931.pdf>

To circumvent the challenge of unequal returns to female labor and unpaid work requires creating socially acceptable economic roles for women on and off the farm. For instance, the rise of export-led manufacturing such as readymade garments, textile and footwear provided many women in emerging Asian economies a pathway out of poverty (Yamagata 2009; World Bank 2012). However, monetization and the economic recognition of women's work alone will not be enough. If women are to be empowered within agriculture, then attempts have to be made to improve their access to resources (land, credit, extension services) as well as markets (World Bank, 2011; 2012). Women also require better access to agricultural trade networks and critical social capital, in both of which they are significantly disadvantaged relative to men (Walther, Tenikue and Trémolières 2019). Asia's patriarchal social structure restricts women's visits to markets and farm gates, so that the marketing of farm produce critically depends on the presence of a male family member. This partly explains the high concentration of women in homestead farming activities and their low presence in the value chain. Digital technologies could well help overcome the constraints on female mobility by connecting women with the market (e.g. Hay and Pearce 2014; Annan and Dryden 2015).

In a similar vein, export-oriented cash crop farming may help to monetize women's labor, link them to value chains, and improve labor standards in agriculture. Throughout South Asia, women are mostly in charge of production of low-revenue agricultural commodities such as vegetables, poultry and livestock. One way to circumvent their lack of participation in cash crops and agricultural commerce is partnering with male family members. To protect against expropriation risk, husbands may be incentivized to register the agricultural enterprise in their wife's names (Ambler et al 2018). There is also some evidence that shared ownership of land and productive assets are better insurance against shocks (Rakib and Matz 2016; Quisumbing, Kumar and Behrman 2017).

In this context, Doss & Quisumbing (2020) emphasize the need to focus more on the sharing of responsibility between men and women within the household. Agricultural schemes that increase women's involvement in farm work therefore need to balance the time demands of agriculture with the time demands of other household chores including childcare responsibilities. Ecological vulnerability and double-burden mean that taking men out completely will be counter-productive. Thus, Fernandez et al (2015) found that women in Indonesia were happier when making decisions jointly with their husbands rather than alone. Farming will be a fairer experience for women if agriculture becomes an employment of choice and responsibilities are shared.

Research suggests that breaking the vicious cycle would require a two-pronged approach – shifting the focus of women's education to post-primary education and improving their access to landownership in partnership with men instead of just focusing on legal and institutional change. Most women in agriculture lack secondary education even though evidence based on the cross-country analysis of micro data confirms the importance of educational development for women's empowerment. Evidence also confirms the importance of female schooling for reducing food insecurity (Gödecke, Stein and Qaim 2018). This is particularly so for secondary schooling and beyond (Hanmer & Klugman 2016). In other words, in the absence of "baseline" or "pre-market" bargaining power (e.g. owing to low schooling), women's participation in outside work including that in agriculture is unlikely to be an empowering experience.

Finally, it is worth emphasizing that, given the strong connection between marriage and women's participation in agriculture throughout Asia and Africa, the challenge for policymakers is to strengthen women's rights within and outside marriage (in case of divorce or death of the husband). In addition, with the shift from subsistence farming to high value agriculture, there is increased need for equity in market access as well as asset ownership. Historically social customs and religious laws have discriminated against women in South Asia limiting access mostly through user rights instead of ownership. But reforms now give women the legal right to purchase and own land as is the case in Bangladesh (Halim 2015). Other examples of important policy reforms include Nepal's Agriculture Policy and Agriculture Development Strategy (2015-2035) where a tax exemption for land registered under the ownership of women has contributed to increase women's access to land (Upreti, Ghale, Shivakoti and Acharya, 2018). While many other countries in Asia have put in place similarly progressive policies to provide equal rights to men and women, the application of these policies to land rights has been complicated by social norms and inheritance patterns which have traditionally favoured men (Rao, 2011 ). In some instances, policy measures have been inadequate even when they have introduced provisions for women's inclusion in agricultural structures and services. This is particularly so for women from ethnic minority communities who still do not fully enjoy constitutional rights and provisions. Women also suffer from a disadvantage because of exclusion from leadership positions in land-related dispute resolution system.

## **5. Concluding Words**

Women's participation in agriculture is increasing worldwide, providing both opportunities for, and challenges to, household welfare and female empowerment.

We share the optimism over possible progress in global food security that has been created following women's rising presence in farming. Despite this new opportunity presented by the feminization of farm work, the potential impact of women's involvement in agriculture on household food security will be realized when farming increases women's empowerment. Our review of the social sciences literature shows that the jury is still out in this regard.

For farming to become an empowering experience, improvement in baseline or pre-market bargaining power such as post-secondary education is likely to be critical, though not enough on its own. Additional policy challenges include the monetization and economic recognition of women's labour and a much-needed shift towards social norms encouraging shared responsibility between men and women within the household. Only when women's empowerment becomes both a means to their participation in farming, as well as an end, will the rising participation of women in agriculture serve as an effective path to global food security.



## References

- Akter, Sonia & Namrata Chindarkar (2020) An Empirical Examination of Sustainability of Women's Empowerment Using Panel Data from India, *The Journal of Development Studies*, 56:5, 890-906.
- Akter, Sonia, Pieter Rutsaert, Joyce Luis, Nyo Me Htwe, Su Su San, Budi Raharjo, Arlyna Pustika (2017) Women's empowerment and gender equity in agriculture: A different perspective from Southeast Asia, *Food Policy*, 69, 270-279.
- Anik, Asif Reza & Rahman, Sanzidur (2020) Women's Empowerment in Agriculture: Level, Inequality, Progress, and Impact on Productivity and Efficiency, *The Journal of Development Studies*, DOI: 10.1080/00220388.2020.1817393
- Allendorf, Keera (2007) "Do Women's Land Rights Promote Empowerment and Child Health in Nepal?" *World Development* 35 (11): 1975–88.
- Ali, Daniel, Derick Bowen, Klaus Deininger, Marguerite Duponchel (2016) Investigating the Gender Gap in Agricultural Productivity: Evidence from Uganda, *World Development*, 87, 152-170.
- Ambler, Kate & Jones, Kelly M. & O'Sullivan, Michael (2018) "What is the role of men in connecting women to cash crop markets? Evidence from Uganda," IFPRI discussion papers 1762, International Food Policy Research Institute (IFPRI)
- Anderson, Siwan & Eswaran, Mukesh (2009) "What determines female autonomy? Evidence from Bangladesh," *Journal of Development Economics*, 90(2), 179-191.
- Asadullah, M.N. and Z. Wahhaj (2019). "Female Seclusion from Paid Work: A Social Norm or Cultural Preference?", ECARES Working Paper 2019-10.
- Asian Development Bank (2015) Women in the workforce: An unmet potential in Asia and the Pacific. <https://www.adb.org/sites/default/files/publication/158480/women-workforce-unmetpotential.pdf>
- Dolan, C.S. (2001) The "Good Wife": Struggles over resources in the Kenyan horticultural sector, *The Journal of Development Studies*, 37 (3), pp. 39-70.
- Doss, Cheryl R. & Agnes R. Quisumbing (2020) "Understanding rural household behavior: Beyond Boserup and Becker," *Agricultural Economics*, vol. 51(1), pages 47-58.
- Doss, Cheryl, Chiara Kovarik, Amber Peterman, Agnes Quisumbing, and Mara van den Bold (2015) "Gender Inequalities in Ownership and Control of Land in Africa: Myth and Reality." *Agricultural Economics* 46: 403–34.

- Doss, Cheryl, Ruth Meinzen-Dick, Agnes Quisumbing, Sophie Theis (2018) "Women in agriculture: Four myths," *Global Food Security*, Pages 69-74.
- FAO (2011) *The State of Food and Agriculture: 2010-2011: Women in agriculture. Closing the gender gap for development*.
- FAO and ECA (2018) Regional Overview of Food Security and Nutrition. Addressing the threat from climate variability and extremes for food security and nutrition. Accra. 116 pp  
<http://www.fao.org/3/CA2710EN/ca2710en.pdf>
- Fernandez, Antonia & Della Giusta, Marina & Kambhampati, Uma S. (2015) The Intrinsic Value of Agency: The Case of Indonesia, *World Development*, 70(C), 92-107.
- Gillespie, Stuart & Poole, Nigel & van den Bold, Mara & Bhavani, R.V. & Dangour, Alan D. & Shetty, Prakash (2019) "Leveraging agriculture for nutrition in South Asia: What do we know, and what have we learned?," *Food Policy*, 82(C), 3-12.
- Gladwin, C. H., Thomson, A. M., Peterson, J. S., & Anderson, A. S. (2001). Addressing food security in Africa via multiple livelihood strategies of women farmers. *Food Policy*, 26, 177–207.
- Galiè, Alessandra, Nils Teufel, Amy Webb Girard, Isabelle Baltenweck, Paula Dominguez-Salas, Mindy J. Price, Rebecca Jones, Ben Lukuyu, Luke Korir, IlanaG. Raskind, Kristie Smith,
- Yount, Kathryn M. (2019) Women's empowerment, food security and nutrition of pastoral communities in Tanzania, *Global Food Security*, 23, 125-134.
- Gödecke, Theda, Alexander J. Stein and Martin Qaim (2018) The global burden of chronic and hidden hunger: Trends and determinants, *Global Food Security*, 17, 21-29.
- Hanmer, Lucia & Klugman, Jeni (2016) Exploring Women's Agency and Empowerment in Developing Countries: Where do we stand?, *Feminist Economics*, 22:1, 237-263.
- Halim, Sadeka (2015) Women's Ownership Rights and Access to Land in Bangladesh. In Govind Kelkar and Maithreyi Krishnaraj (eds.) *Women, Land and Power in Asia*. Routledge India.
- Herforth, A. (2013) *Synthesis of Guiding Principles on Agriculture Programming for Nutrition*, Rome: Food and Agriculture Organization of the United Nations (FAO).
- Hossain, M (2019) "Does gender influence farm households' decision to adopt technology and commercial agriculture: Implication for household food security in rural Bangladesh." *SAARC Journal of Agriculture* 17.1 (2019): 219-226.
- Hossain, M., Asadullah, N., and Kambhampati, U. (2019) Empowerment and life satisfaction: evidence from Bangladesh. *World Development*, 122. pp. 170-183.

Hossain, M., Asadullah, N., and Kambhampati, U. (2021) Women's Empowerment and Gender-Differentiated Food Allocation in Rural Bangladesh. *Review of the Economics of Household*.

Holland, Cara & Rammohan, Anu (2019) Rural women's empowerment and children's food and nutrition security in Bangladesh, *World Development*, 124(C), 1-1.

Jayachandran, Seema (2020) "Social norms as a barrier to women's employment in developing countries," NBER Working Paper No. w27449.

Kabunga, N. S., Dubois, T. and Qaim, M. (2012) Heterogeneous information exposure and technology adoption: the case of tissue culture bananas in Kenya, *Agricultural Economics* 43(5): 473–486.

Kantor, P. (2003) "Women's Empowerment Through Home-based Work: Evidence from India". *Development and Change*, 34: 425-445.

Kieran, Caitlin & Kathryn Sproule & Agnes R. Quisumbing & Cheryl R. Doss (2017) "Gender Gaps in Landownership across and within Households in Four Asian Countries," *Land Economics*, 93(2), 342-370.

Meinzen-Dick, Ruth, Quisumbing, Agnes, Doss, Cheryl and Theis, Sophie (2019) Women's land rights as a pathway to poverty reduction: Framework and review of available evidence, *Agricultural Systems*, 172, 72-82.

O'Sullivan, Michael (2017) "Gender and Property Rights in Sub-Saharan Africa: A Review of Constraints and Effective Interventions." Policy Research Working Paper 8250, World Bank, Washington, DC.

Pattnaik, Itishree, Kuntala Lahiri-Dutt, Stewart Lockie & Bill Pritchard (2018) "The feminization of agriculture or the feminization of agrarian distress? Tracking the trajectory of women in agriculture in India", *Journal of the Asia Pacific Economy*, 23:1, 138-155

Peterman, A., Behrman, J. A. and Quisumbing, A. R. (2014). A review of empirical evidence on gender differences in nonland agricultural inputs, technology, and services in developing countries. *Gender in Agriculture*. Amsterdam: Springer, 145–186.

Pérez-Escamilla, Rafael (2017) Food Security and the 2015–2030 Sustainable Development Goals: From Human to Planetary Health: Perspectives and Opinions, *Current Developments in Nutrition*, 1(7), e000513, <https://doi.org/10.3945/cdn.117.000513>

Quisumbing, A., K. Sproule, E. Martinez, and H. Malapit (2017) Gender, Women's Empowerment, and Nutrition: A Review, New Evidence, and Guidelines for Nutrition-Sensitive Agricultural Programming. Report submitted to the Food and Agriculture Organization of the United Nations. Rome

Quisumbing, Agnes R, Neha Kumar, and Julia A Behrman (2017) "Do Shocks Affect Men's and

Women's Assets Differently? Evidence from Bangladesh and Uganda." *Development Policy Review* 36 (1): 3–34.

Rakib, Muntaha and Julia Anna Matz (2016) "The Impact of Shocks on Gender-differentiated Asset Dynamics in Bangladesh." *The Journal of Development Studies* 52 (3).

Ramachandran N. (2007) Women and Food Security in South Asia: Current Issues and Emerging Concerns. In: Guha-Khasnobis B., Acharya S.S., Davis B. (eds) *Food Insecurity, Vulnerability and Human Rights Failure*. Studies in Development Economics and Policy. Palgrave Macmillan, London.

Solotaroff, Jennifer L., Aphichoke Kotikula, Tara Lonnberg, Snigdha Ali, Rohini P. Pande (2019) "Voices to Choices: Bangladesh's Journey in Women's Economic Empowerment".

Slavchevska, Vanya et al (2019) "The Feminization of Agriculture". In John Anthony Allan (ed.) *The Oxford Handbook of Food, Water and Society*.

Smith, MD , Rabbitt, MP and Coleman-Jensen, A. (2017) "A Who are the world's food insecure? New evidence from the Food and Agriculture Organization's food insecurity experience scale". *World Development*, 93:402–12.

Tambi, M. D., Atemnkeng, J. T., & Bime, M. J. (2017). Women in agricultural production and food security in rural Cameroon. *International Journal of Agricultural Policy and Research*, 5(3), 70-79.

Thomas, Duncan (1990) "Intra-Household Resource Allocation: An Inferential Approach," *Journal of Human Resources*, 25(4), 635-664.

Hill, R.V. & Vigneri M. (2014) Mainstreaming Gender Sensitivity in Cash Crop Market Supply Chains. In: Quisumbing A., Meinzen-Dick R., Raney T., Croppenstedt A., Behrman J., Peterman A. (eds) *Gender in Agriculture*. Springer, Dordrecht. [https://doi.org/10.1007/978-94-017-8616-4\\_13](https://doi.org/10.1007/978-94-017-8616-4_13).

Rao, Nitya. (2011, September 20–23). Women's access to land: An Asian perspective (paper, Expert Group Meeting on Enabling Rural Women's Economic Empowerment: Institutions, Opportunities and Participation). Accra, Ghana.  
<https://www.un.org/womenwatch/daw/csw/csw56/egm/Rao-EP-3-EGM-RW-30Sep-2011.pdf>

Upreti BR, Ghale Y, Shivakoti S, Acharya S. (2018) Feminization of Agriculture in the Eastern Hills of Nepal: A study of Women in Cardamom and Ginger Farming. *SAGE Open*. doi:10.1177/2158244018817124

World Bank (2011) *Women, Business and the Law 2012: Removing Barriers to Economic Inclusion*. World Bank, Washington, DC.

World Bank (2012) *World Development Report 2012: Gender Equality and Development*. World

Bank, Washington, DC.

World Bank (2016) *Feminization of Agriculture in the Context of Rural Transformations: What is the Evidence?* <https://doi.org/10.1596/25099>

Walther, Olivier J., Tenikue, Michel and Trémolières, Marie (2019) Economic performance, gender and social networks in West African food systems, *World Development*, 124.

Yount, K.M. (2005) “Resources, family organization, and domestic violence against married women in Minya”, Egypt, *Journal of Marriage and Family*, 67 (3), pp. 579-596.

Yamagata T. (2009) *Industrialization cum Poverty Reduction: The Cases of Bangladesh and Cambodia*. In: Shiraishi T., Yamagata T., Yusuf S. (eds) *Poverty Reduction and Beyond*. IDEJETRO. Palgrave Macmillan, London.