

Centering social reproduction during crisis: women's experiences of food insecurity in Myanmar, Papua New Guinea, and the Philippines during the COVID-19 pandemic

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ABSTRACT

Studies examining the gendered impacts of COVID-19 have shown that women have been disproportionately impacted by the socio-economic effects of the pandemic across multiple areas, including economic and food security. We sought to understand how the impacts of the pandemic on women's food security in the Indo-Pacific region were influenced by women's roles in performing the bulk of unpaid work and care involved in social reproduction. We interviewed 183 female farmers and vendors (market stallholders) in Myanmar, Papua New Guinea, and the Philippines. We found that across all three countries examined, women described an impact on their food security as well as their labour, processes of reproduction, and private household dynamics. Women's household food security was impacted because of decreased income, increased business costs, rising food costs, and additional household costs. Further, our findings show that because it was typically women's responsibility to manage household food security, women were anticipating food shortages and engaging in risks to mitigate against food insecurity. These findings demonstrate the urgent need to introduce national and international crisis response measures that differentiate the gendered social and economic impacts of crises that centers, rather than marginalizes, social reproduction in analyses.

KEYWORDS

Food insecurity; social reproduction; feminist international political economy; Indo-Pacific; COVID-19; women

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Introduction

Studies examining the gendered impacts of COVID-19 have shown that women have been disproportionately impacted by the socio-economic effects of the pandemic across multiple areas, including economic and food security, unpaid care and reproductive work, and relief and social services (FAO et al., 2021, p. 25; UN Women, 2021). We have seen that global economic responses to the pandemic have been marked by significant gender ‘blind spots,’ with few economies responding to COVID-19 with a gender-inclusive lens. To date, studies and reports on the gendered impacts of COVID-19 have shown that women’s roles in social reproduction placed them at particular risk of socioeconomic disadvantage, similar to the impact experienced in other crises (UN Women, 2022).

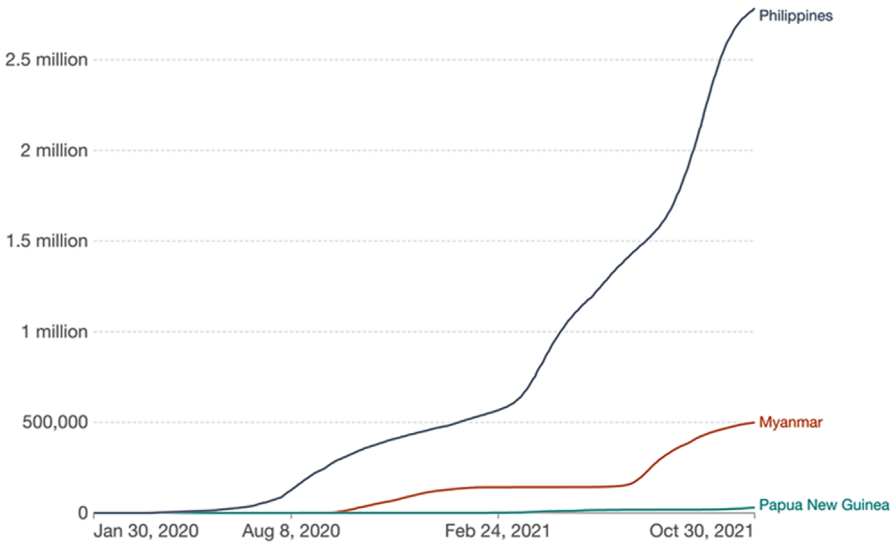
The pandemic has exposed local and global structural inequalities that place women at greater risk of food insecurity (FAO et al., 2021, p. 103). In crises, the work and care involved in social reproduction (the bulk of which is typically performed by women) often increases and, because of increased time poverty, women’s capacity to earn income from paid work is further limited (UN Women, 2020; Seck et al., 2021). Globally, women are highly represented in precarious and informal employment, often to balance paid work with women’s unremunerated reproductive labour and care responsibilities in the home and community (Federici, 2008/2020, p. 119). However, the lack of employment safeguards in precarious and informal employment, especially a reliable wage, places women at significant risk of economic insecurity, which typically leads to food insecurity during times of economic disruption. In addition, vulnerability to food insecurity is further intensified when food costs increase due to market disruption from climatic events, conflict, or other crises, as they did during the COVID-19 pandemic. For this study, we asked: Did the responsibilities of social reproduction place low-income and precariously employed women at particular risk of food insecurity during the COVID-19 pandemic?

This paper analyzes the gendered impacts of COVID-19 on women self-employed in the agricultural sector in the Indo-Pacific region. To identify the specific risk of economic hardship and food insecurity that women experienced during the first year of the pandemic (January 2020–January 2021), we interviewed 183 female farmers and vendors (food market stallholders¹) in rural regions of Myanmar, Papua New Guinea, and the Philippines – three countries that, before COVID-19, already faced significant food security challenges and had a high representation of women in self- and informal employment. All the women in this study were in precarious self-employment contexts, living in rural and remote communities where the economy is dependent on small enterprise (home and market stall) agricultural sales. Of the three countries, the Philippines experienced the greatest number of confirmed COVID-19 cases in the first two years of the pandemic, followed by Myanmar and Papua New Guinea (See [Figure 1](#)).

Our study aims to identify and understand the specific gendered impacts of COVID-19 on food and income security for women already in economic precarity in the agriculture sectors of rural regions of the Indo-Pacific. Informed by a feminist international political economy (FIPE) approach, we sought accounts from small-scale female farmers and small-scale agricultural food vendors to understand how the pandemic affected them and their families during its first year. Significantly,

Cumulative confirmed COVID-19 cases

Due to limited testing, the number of confirmed cases is lower than the true number of infections.



Source: Johns Hopkins University CSSE COVID-19 Data

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Figure 1. COVID-19 infection rates across the three countries. Source: Ritchie et al. (2020).

through centering women's reproductive labour in our analysis – not simply considering it as an afterthought – we challenge conventional approaches in political economy scholarship, where reproductive labour is often a 'blind spot' or considered as marginal rather than central to the economy (LeBaron et al., 2021). Further, in focusing our analysis on low-income women living in remote locations in the Indo-Pacific region, we contribute their unique experiences to existing feminist analyses of reproductive labour, mostly focused on women in neoliberal capitalist economies in the global North and urban global South (Mezzadri et al., 2022, p. 1785). The entanglement of these women's low-income economic status, remoteness, and gender, during the crisis, shaped our research approach to present their embodied, everyday lives and livelihoods (as well as experiences of exploitation and oppression).

This paper presents the study in five sections. First, we offer a review of existing knowledge on the gendered impacts of COVID-19 and the continuum between women's reproductive labour, care roles, and vulnerability to food and economic insecurity during the crisis. We explain why our study of the crisis was informed by a FIPE perspective, which calls on researchers to highlight reproductive labour as work that is not commodified but, in our case, was essential for these women and their families to survive the health and economic crisis. Second, informed by the FIPE perspective, we present our methodology and explain our relationships-first approach to research. Third, we present our findings. We outline the commonality of experience across three sites (Myanmar, Papua New Guinea and the Philippines) where women sought to mitigate the ongoing economic harm caused by COVID-19 disruption at the individual, household, and community levels. We find that across

all three cases due to women's primary responsibility to manage household food security, they were engaging in risks to mitigate against food insecurity. Finally, we present the insights gained from this study and discuss how the findings could further inform gendered responses to future crises, including natural disasters, conflict, and major economic disruptions.

Social reproduction as a 'blind spot' of International political economy

The COVID-19 pandemic has had wide-ranging impacts on regional and household food security in all parts of the world. World hunger has increased during the pandemic, with estimates from the Food and Agriculture Organisation of the United Nations (FAO) suggesting that the number of people experiencing hunger increased by approximately 118 million people between 2019 and 2020 alone (FAO et al., 2021, p. xii). The World Bank reported in August 2021 that these trends were 'reversing years of development gains' (World Bank, 2021). Two FAO State of Food Security and Nutrition in the World reports released since the beginning of the COVID-19 pandemic documented the widespread impacts that the pandemic has had on food security globally (FAO et al., 2020). The 2021 report points out that the pandemic 'continues to expose weaknesses in our food systems,' threatening lives and livelihoods around the world, 'particularly the most vulnerable and those living in fragile contexts' (FAO et al., 2021, p. vi).

While issues with food supply were a significant driver of food insecurity during the first two years of the pandemic (Clapp & Moseley, 2020, p. 1395; FAO et al., 2021, p. 51; Farrell et al., 2020, p. 783; UN, 2020, p. 4), lack of supply was by no means the only or major cause of wide-spread global food insecurity. The COVID-19 pandemic led to significant economic disruption, including widespread loss of income and an increase in the cost of food in some regions – both considered by the FAO et al., (2021, p. 2) as main drivers behind food insecurity. In addition, the pandemic exacerbated the effects of pre-existing or emerging non-economic drivers of food insecurity like conflict (particularly, in our case, in the context of the military coup in Myanmar in February 2021) or climate variability and extremes (FAO et al., 2021, p. 51). Evidence is showing that COVID-19 had a 'compounding effect on pre-existing vulnerabilities and stressors,' and regions already at risk of food insecurity because of climate or conflict, for example, have been particularly vulnerable to food insecurity during the pandemic (Dodd et al., 2021, p. 2; Elbehri et al., 2022).

Social, cultural, and economic factors also mean that some groups within already vulnerable regions were at particular risk of food insecurity, with impacts on food security unevenly distributed across social and economic strata (Stevano et al., 2021). Significantly, many studies and reports are showing that the impacts of COVID-19 are gendered – with women and girls disproportionately negatively impacted by the social, economic, and health impacts of the COVID-19 pandemic, including the prevalence and severity of food and economic insecurity (Ayittey et al., 2020; Dodd et al., 2021, p. 1; FAO et al., 2021, p. 25; Sanderson et al., 2020, p. 14; Sarker, 2021, p. 599; Picchioni et al., 2021, pp. 1–2). The gap between women's and men's food security grew during the COVID-19 pandemic: Between 2019 and 2020, the prevalence of moderate or severe food insecurity rose from 6% to

10 higher for women than men (FAO et al., 2021, pp. 21–22). More women than men have been pushed into ‘extreme poverty’ due to the pandemic, and women have experienced higher rates of job loss, decreased work hours, and increased care responsibilities and unpaid household labour (FAO et al., 2021, p. 56; Sarker, 2021, p. 587; UN Women, 2021).

How can we explain such significant gendered experiences of the pandemic? Globally, most political and economic responses to the COVID-19 pandemic failed to properly consider the ways that women are particularly vulnerable to food and economic insecurity, resulting in disproportionate negative impacts experienced by women (UN Women, 2020). This political economy ‘blind spot’ can be traced to an economic and policy failure to recognize the ways that reproductive labour shapes women’s lives and livelihoods during a crisis (Tanyag, 2018). Failure to consider the direct impacts of COVID-19 public health measures (especially lockdowns) on food and economic security demonstrates a failure to recognize social reproduction (and, thus, women’s labour) as *central*, not marginal, to economies and thus to economic responses to crises (Mezzadri et al., 2022; Stevano et al., 2021). This paper seeks to address the ‘blind spot’ in economic and policy response and record how those vulnerable to food and financial insecurity, who were also primarily responsible for social reproduction tasks during the crisis, managed their economic and food insecurity.

Centering social reproduction in our analysis is informed by the feminist critique of International Political Economy (IPE) scholarship, which frames reproductive labour (and the broader practices and processes of social reproduction) as a ‘blind spot’ in IPE scholarship (Bakker, 2007; Hozic & True, 2016; LeBaron et al., 2021; Prügl 2021). These scholars highlight the ways that the practices of social reproduction are routinely excluded from scholarly consideration in economics and IPE. There have been calls for IPE to properly acknowledge the ways that production and the market economy *depend on* the ‘everyday’ unpaid reproductive work and care that is – in most economies – performed overwhelmingly by women (Elias & Rai, 2019, p. 201). FIPE draws attention to how the everyday – including the processes of social reproduction – is considered marginal to the concerns of the market economy ‘proper’ (Naidu & Ossome, 2016). FIPE seeks to upend such approaches, highlighting both how social reproduction is central to the market economy *and* how it shapes women’s lives and livelihoods (Seguino, 2010).

Social reproduction refers to the processes and practices involved in the reproduction of life (Elias & Rai, 2019, p. 203; Bakker, 2007, p. 541). This includes ‘biological reproduction, the work of caring for and maintaining households and intimate relationships, the reproduction of labour, and the reproduction of community itself’ (Elias & Rai, 2019, p. 203). It also includes ‘unpaid production in the home of goods and services and the reproduction of culture and ideology that stabilizes (as well as sometimes challenges) dominant social relations’ (Elias and Rai, 2019, p. 203). FIPE scholars are also concerned with analyzing and questioning the ‘foundational dichotomies’ (Prügl, 2021, p. 295) and conceptual hierarchies that underpin the political economy. For example, Prügl (2021, p. 295) describes how the (gendered) opposition between production and reproduction as well as the spatial opposition between public and private render women’s economic contributions through reproductive work and care invisible – or at least marginal to market economies. As Prügl notes, feminist political economy has therefore ‘long sought to

counteract the devaluing of the feminine in these binaries, including care, subsistence, and social reproduction (2021, p. 296). Feminist critiques of IPE 'have sought to valorize women's crucial but largely hidden and often unpaid work in homes, farms, and small businesses together with feminized and marginalized economic values thus produced' (Prügl, 2021, p. 296).

However, LeBaron et al. note that FIPE scholarship, while extensive, still 'remains siloed' (LeBaron et al., 2021, p. 287). Further, Mezzadri et al. note that while there has been an 'exponential rise' in feminist analyses of social reproduction in recent years, much of this has focused on the global North (2022, p. 1785). It is necessary to consider how 'reproductive sectors, institutions and realms may work across the Global South' and how 'productive and reproductive work may interplay and co-constitute in economies largely characterized by agrarian and/or informal labour relations' (Mezzadri et al., 2022, p. 1785). FIPE calls for recognition of how cultural, political, and economic forces shape gendered divisions of labour as well as how these divisions of labour shape women's lives. Our concern was with women whose food security is intimately linked to the informal income that they earn from growing and selling food, and the impact of the COVID-19 pandemic on their access to and consumption of food when they may be facing increased reproductive tasks.

The productive and reproductive work involved to secure food depends on knowledge of situations where unequal gendered labour to maintain access and production levels (Naidu & Ossome, 2016). To answer the above question, we adopted a feminist IPE approach that 'analyze[d] the world of work *through* social reproduction' (Mezzadri et al., 2022, p. 1790), by beginning from and centering social reproduction in our analysis. Our focus on food security and social reproduction experiences in the global South was a conscious feminist decision to document how women, living in remote areas and dependent on market-derived income as farmers or vendors, laboured during a disaster that had a direct impact on their income due to public health lockdown measures (Salleh, 1997). In each situation, we sought to document the production and reproductive work involved to secure income and food. We document the experience of women in the global South who were already economically precarious before the crisis (Chant, 2007), and give voice to their experience of immense hardship whilst having to maintain productive and reproductive work involved to secure food.

Research context

In the Indo-Pacific, labour such as farming and food vending are primary sources of informal income tasked by women in rural areas (Elbehri et al., 2022, pp. viii-ix).² The pandemic reduced income, increased labour and care, and the region (as a whole) produced few gender-specific policies to support the women most affected (Ibid). For women whose food security is intimately linked to the informal income that they earn from growing and selling food, how did they manage during COVID-19 and how did they adapt to policy and economic changes they could not control?

We selected three cases – Myanmar, Papua New Guinea, and the Philippines – to ensure that we could develop sufficient depth of investigation in each location

Table 1. Country demographic information.

	Myanmar	Papua New Guinea	Philippines
Total Population	52 million	8.8 million	109 million
Population below poverty line (\$1.90USD per day)	38% Rural 14% Urban	40% Rural 27% Urban	24.5% Rural 9.3% Urban
Gender Inequality Index	147th	160th	16th
Labour workforce	43.1% women 71.9% men	46.4% women 48.1% men	42.6% women 67% men
Workforce in agriculture	15.5% women 22.7% men	40% women 51% men	15% women 30% men

Data for 2020: The World Bank Gender Data Portal (<https://genderdata.worldbank.org/>) and ILOSTAT (<https://ilostat ilo.org/data/country-profiles/>).

across different contexts (see Table 1) (Przeworski & Teune, 1970). One common factor across the three cases (countries) was the economic impact of the pandemic, triggered by the introduction of public health measures that led to the temporary lockdown of schools, markets, and health clinics during 2020. We aimed to document the COVID-19 pandemic experience amongst rural women carrying out domestic and care work, mitigating food insecurity, while maintaining agricultural labour (farming and/or selling produce) across three different socio-economic environments. As Table 1 demonstrates, the three countries vary significantly across socio-demographic indicators, but what they have in common is that there was no available data on the percentage of time spent on unpaid domestic and care work (World Bank, 2020). This is the case pre- and post-pandemic. Understanding the extent to which the COVID-19 pandemic impacted the volume of unpaid domestic and care work undertaken by women required a research design framework that could collect and record their undocumented experiences.

Each of the countries studied had existing food security challenges as well as a high representation of women working informally in the agriculture sector before COVID-19 (ADB, 2013). Before the COVID-19 pandemic and 2021 Coup, Myanmar was one of the fastest growing economies in the East Asia and Pacific region, but rates of poverty and food insecurity remained high – with food security being typically higher in rural communities than urban ones (FAO & WFP, 2021, p. 4). Twenty-five per cent of the population was living below the poverty line (FAO & WFP, 2021, p. 4) and results from a survey conducted between 2017 and 2018 showed that about one-third were experiencing food insecurity (Hlaing et al., 2019, p. 227). Developing research on the impacts of COVID-19 on food security in Myanmar shows a clear link between food insecurity and economic insecurity driven by the loss of income from paid work (Headey et al., 2022, p. 1; Boughton et al., 2021, p. 4) and remittances (Suhardiman et al., 2021, p. 100; UNDP, 2021). Estimates suggest that between 6.9 and 7.3 million jobs were disrupted in Myanmar during 2020 ‘as a result of the pandemic and related containment measures’ (FAO & WFP, 2021, p. 6). Those working in agriculture have been significantly impacted, with the FAO and WFP noting that half of the almost 20 million people working in sectors in Myanmar considered at ‘medium to high risk of economic disruption’ were based in agriculture (FAO & WFP, 2021, p. 6).

Women have remained particularly vulnerable to food insecurity in Myanmar, and the UN framework for the immediate socio-economic response to COVID-19 in Myanmar identified women as one of the most likely groups to be severely

impacted by the pandemic (UNDP, 2021). Women are overrepresented in the informal and subsistence economy in Myanmar (Hedström & Olivius, 2020, p. 381) and make-up 90% of those employed in the garment industry and 60% of workers employed in the food and accommodation services – industries that have been significantly impacted by the effects of COVID-19 (United Nations, 2020). Food security in Myanmar was also impacted by political instability following the military coup of February 2021 (Clare, 2021; MAPSA, 2021; Win, 2021). According to an International Food Policy Research Institute (IFPRI) report published in July 2021, the economic impacts of the military coup combined with the COVID-19 crisis are expected to result in rates of poverty increasing to 40–50% of the population, compared to 32% of the population in 2015 (MAPSA, 2021, p. 7).

In Papua New Guinea, women and girls have been disproportionately impacted by the pandemic, experiencing loss of income, adverse health outcomes due to women's role in the health sector, an increase in domestic workload, and restricted access to sexual and reproductive health services (Bourke, 2020, p. 142; Davila et al., 2021, p. 7; Robinson et al., 2020). In addition, anecdotal evidence has suggested 'increasing instances of family and sexual violence, gender-based violence and sorcery-accusation related violence as a result of COVID-19 and the associated restrictions' (Robinson et al., 2020). The closure of fresh food markets in Papua New Guinea (to control the spread of the virus) particularly impacted women's income. Marketing fresh food, fish, live animals, and meat provides important income for rural women (Busse & Sharp, 2019), and the closure of markets had a significant impact on women through restricting rural and urban women's access to fresh food, increasing the price of food in urban areas, and limiting rural women's capacity to gain income from selling produce (Bourke, 2020, p. 145; Davila et al., 2021, p. 7). While no quantitative data showed the precise number of people impacted by the loss of income and employment, 'anecdotes received from many urban centers suggest large numbers' (Bourke, 2020, p. 151). Loss of employment and income had significant impacts on the food security of those who had no access to food gardens or other sources of income (Bourke, 2020, p. 151). Compounding the loss of income was, as with other regions, the increased cost of food: Davila et al. (2021, p. 7) note that prices for many fresh foods increased sharply in many urban areas of Papua New Guinea because of the 'reduced number of vendors and volume of fresh food offered for sale'. These studies note the urban impacts, but little is known of the impact of the crisis on rural women who depend on the agricultural sector.

In the Philippines, where food insecurity was also already a significant problem, the impacts of COVID-19 created additional risks of food insecurity, with the greatest health impact and greatest food supply-chain disruption reported to be in Metro Manila in 2020 (Palo et al., 2020, p. 166). A UN Women report shows that a greater proportion of female than male agricultural producers in the Philippines noted decreases in food from subsistence farming since the spread of COVID-19 and that more women than men in the Philippines were finding it difficult to access necessary food, hygiene, and medical products since the beginning of the pandemic (UN Women, 2020, p. 5). In addition, a greater number of women than men working in the informal economy lost working hours because of the impacts of the pandemic (UN Women, 2020, p. 14).

A study conducted by Plan International Philippines, an online survey with girls and young women aged 13–24 from 17 regions across the Philippines in 2020, investigated the participants' perceptions of 'the effects of COVID-19 on various areas of their lives, specifically the environment, health, education, and economic opportunities' (De Guzman, 2020, p. 19). It found that having no food was a notable concern of the respondents (De Guzman, 2020, p. 26), with 73% of respondents naming food as the assistance that they needed during the pandemic (De Guzman, 2020, p. 51). Sixty-four per cent of respondents said that they needed cash assistance for both food and school expenses (De Guzman, 2020, p. 51). Another study, by Seck et al. (2021, p. 134), notes that just 34% of women outside of employment in the Philippines received unemployment benefits or government financial support since the beginning of the pandemic.

In her analysis of women's reproductive labour in post-Soviet Uzbekistan, Lombardozi describes how, in agrarian settings, the nature of agrarian labour and economic flows shape processes of social reproduction. In such contexts, the typical dichotomy of productive/reproductive labour is problematized because 'non-commodified rural labour for subsistence and labour exchanged for cash are often mutually constitutive and not spatially and temporally separate' (2022, p. 1874). Importantly, Lombardozi (2022, p. 1875) explains that:

In locations where fluid informal labour and domestic work subsidize marketized and non-marketized work and nature, women's contribution to agrarian production is left implicit because it is harder to categorize and legitimize as co-determinant of marketisation outcomes.

As women's representation in the labour market increases through periods of economic, social, and political transition (such as shifts from subsistence to cash crop farming or the marketization of agriculture), women's social reproduction responsibilities do not typically decrease (Lombardozi, 2022, p. 1877). We anticipated women's experiences in remote locations would be under-researched during the crisis and sought to document its impact.

Methodology

This study draws on qualitative interviews with 183 women (93 farmers and 90 vendors) from the Mandalay (Kyaukse and Patheingyi) and Irrawaddy (Patheingyi and Pyawbwe) regions in Myanmar, Alotau (Milne Bay), Kokopo (East New Britain), Madang (Madang) and Goroka (Eastern Highlands) in Papua New Guinea, and the Antique (Hamtic and Sibalom) and Iloilo (Cabatuan and Dumangas) regions in the Philippines.

Existing data on food and economic insecurity in the regions studied did not, overall, incorporate a critical understanding of how rural women were responding to the rise of social reproduction tasks while their income was under economic pressure. We therefore asked: What insights would a feminist research design approach to studying the productive and reproductive activities of women in the heavily impacted agriculture sector reveal? We designed this study to examine women's everyday experiences of the COVID-19 crisis and to document how women managed reproductive and productive work in rural locations (Chant,

2007). Because of lockdown restrictions, the crisis was impacting on both farmers who needed to travel to sell their produce and vendors who needed produce to sell.

The selection criteria for participants were women who live in rural locations and work in the agricultural sector as farmers, vendors, or both roles. We approached self-employed women, who farmed and/or sold a variety of agricultural products including fish, poultry, fruit, and vegetables for income. It was important that women's voices were centered in the study to get at 'the subjugated knowledge of the diversity of women's realities that often lie hidden and unarticulated' (Hesse-Biber, 2007, p. 113). We, as local researchers, were embedded in the social and cultural contexts of the research sites and had prior research relationships that made these locations accessible. We placed emphasis on women's own narratives of their experiences and adopted a minimal approach in translation. We sought to capture the women's own terms, language, and sentiments from interviews.

Due to differences in COVID-19 lockdown restrictions and women's time and travel constraints in each context, we decided to use semi-structured interviews in Myanmar and the Philippines but focus group discussions in Papua New Guinea. All interviewees self-identified as women and were recruited by utilizing local research team members' existing relationships with women's community associations and women farmer groups in each country.³

The project adopted feminist research methodological principles of co-design and collaboration through all stages of research design, data collection, and data analysis (Hesse-Biber, 2007; Jaggar, 2013). The project drew together a team of cross-institutional, multidisciplinary (agriculture, gender studies, political science, and public health) researchers and civil society practitioners across multiple locations (Australia, Myanmar, Papua New Guinea, and the Philippines). Community-based respondents were interviewed on location. In the first phase the team co-designed the research instrument. There was agreement that one common interview/focus group instrument was preferable, with a focus on how women were managing their social reproduction tasks and income generation during the pandemic. Instrument design involved three one-hour online workshops. A draft instrument was first presented and discussed. Then each workshop discussed the instrument with consideration of the local language and local context. This was during the first quarter of 2021 when the second wave of COVID-19 infections was just underway. We had to prioritize the short amount of time we had to collect data. Time management and data sensitivity led to some questions being excluded. For example, women were not asked to discuss their income, the size of their financial loans, or the number of loans they owed, or to quantify time spent on domestic work (see Table 2).

The second phase involved training to prepare for the field research. Interviews were conducted by local researchers who knew the participants' communities and allowed interviewees to share their stories. Women were interviewed by women researchers who were local to the area. This was to ensure trust and rapport with the women, who were often experiencing periods of significant stress and exhaustion. The authors conducted six training sessions (online) with each research team on ethical research, feminist research, and how to conduct interviews and focus groups. This built familiarity amongst the cohort and shared understanding of the instrument. Our study is based on personal narratives from a small cohort of participants. Due to time and safety considerations, we did not collect the

Table 2. Respondent demographic information.

Region	Paid occupation		Age				School-aged children?			Education level				Ownership/Rental			
	Farmer	Vendor	18-24	25-44	45-59	60+	No entry	Yes	No	P	S	T	NS	Farmer owned (land)	Vendor owned (stall)	Farmer rent (land)	Vendor rent (stall)
Myanmar (total)	25	25	0	32	16	2	0	27	23	24	22	4	0	21	14	4	11
<i>Central Dry Zone/ Mandalay</i>	13	12	-	17	7	1	-	18	7	14	11	-	-	10	3	3	9
<i>Irrawaddy</i>	12	13	-	15	9	1	0	9	14	10	11	4	-	11	11	1	2
Papua New Guinea (total)	42	40	5	47	19	0	11	-	-	33	35	7	7	33	4	9	36
<i>Alatau</i>	10	11	1	8	12	-	-	-	-	5	13	2	1	7	-	3	11
<i>Goroka</i>	12	12	-	15	3	-	6	-	-	12	7	2	3	12	4	0	8
<i>Kokopo</i>	9	8	1	15	1	-	0	-	-	5	9	3	-	7	-	2	8
<i>Madang</i>	11	9	3	9	3	-	5	-	-	11	6	-	3	7	-	4	9
The Philippines (total)	26	25	0	13	22	16	0	30	21	6	17	28	0	10	18	16	7
<i>Antique</i>	13	12	-	6	8	11	-	12	13	5	6	14	-	5	7	8	5
<i>Iloilo</i>	13	13	-	7	14	5	-	18	8	1	11	14	-	5	11	8	2

demographic information to conduct a robust assessment of agency and empowerment in each case (i.e. Malapit et al., 2019).

We conducted interviews in August 2021 (Myanmar and Papua New Guinea) and September 2021 (the Philippines). We conducted semi-structured interviews with a 1:2 ratio (one interviewee to one interviewer and one notetaker) in Myanmar and the Philippines, and focus groups with approximately 6–10 participants and 2–3 researchers (one facilitator plus 1–2 notetakers) in Papua New Guinea. All interviews and focus groups were designed to be time- and location-sensitive to the existing care responsibilities, time priorities, and safety of participants. Social distancing restrictions were still in place or being observed by our team to ensure the safety of all participants. We often spoke to women at the end of their day (farming or selling). We were conscious that women were tired and needed to complete additional chores after our interview. We are immensely grateful to the women who shared their experiences and hopes during this period of high stress.

Findings

Three major themes emerged from our analysis of interview transcripts, showing how social reproduction was linked to food and income insecurity in the context of COVID-19 public health intervention measures. These were: An increase in unpaid household labour and care (resulting in increased time poverty for women, who this work typically fell to), a decrease in household income due to market disruptions and increased business costs, and an increase in the cost of food and other household items. Women describe how these combined factors led to food insecurity for their families. We present how these distinctions and consequences emerged based on the particular context of each research site.

Women's unpaid reproductive work and care demands increased

Before the pandemic, the women that we interviewed who had children (most of our interviewees) in their care would use the time that children were at school to earn income or complete household labour.⁴ The closure of schools, and the introduction of home schooling, therefore placed considerable pressure on women's time. All of the women interviewed, whether farmers or vendors, across the three countries took on the additional responsibility of managing children's learning and helping them with their schoolwork during periods of distance learning during the 2020 and 2021 COVID-19 lockdowns in their respective countries (the Philippines had the longest period of school closures and Papua New Guinea the shortest). This was the case even among women without school-aged children of their own: We heard older women reporting that they were helping their grandchildren or other children in their care with their schoolwork. For example, one farmer in the Philippines (aged 60) told us that she was responsible for collecting and returning learning modules to and from the school (*Farmer 1, Antique, Philippines*). We found that these added home-schooling demands were especially difficult for rural households, where poor internet infrastructure and connectivity – as well as the cost of equipment and data – made online learning challenging or impossible.

We observed families adapting to these changes in schooling in various ways. For example, women in Myanmar told us that their school-aged children helped them with farming during periods of lockdown and, for families with small children, many reported that grandparents would often take care of children while the parents worked on the farm. In Papua New Guinea, we heard similar stories, as well as genuine concern about when to return children to school. Women sometimes made the choice to keep children at home even when schools reopened. One farmer in Papua New Guinea described her concerns about her children contracting COVID-19 at school, for example:

I am a mother of ten children and when COVID first came last year I withdrew all my children from school in fear of COVID-19. This year, I enrolled them again in school, but I realized they went back in with other children and now I see an overcrowding in classrooms and now I'm worried again about my children and their learning. (*Farmer 1, Goroka, Papua New Guinea*).

In the Philippines, most farmers said that they started their days early (i.e. 4 am or 5 am) so that they could attend to their farm after finishing their workload at home (*Farmer 2, Antique, Philippines*). In the absence of another family member or an alternative care provider to provide childcare, some farmers brought their small children or infants to the farm. As one farmer described: 'Sometimes when I go to the field early to pull out the weeds, I bring them along, Ma'am. Then we could just make a sort of house where they can take shade' (*Farmer 1, Antique, Philippines*). Vendors across the three countries described having to make the choice between going to work to earn income with their child/children or sacrificing the income to home-school their children.

Interviewees often described the busyness of their days, which often involved a lot of multi-tasking and combining paid and unpaid labour. Market vendors in the Philippines often used the phrase *tunga lawas*, which loosely translates to multitask, to describe how they managed their different roles:

Yes, every morning, *tunga lawas*. In the morning, I would wake up early and cook. I cook before I go off. I just tell my partner, 'It's already ok here, there's food, rice, viand. You just make milk for the child when she wakes up'. (*Vendor 3, Iloilo, Philippines*).

One farmer in the Philippines described how she would multitask to run the household: 'And then, after I drink coffee, if we have laundry there, I'll soak them, and then cook rice' (*Farmer 1, Antique, Philippines*). Another farmer described how: 'Then the following morning I will tidy the plates while I cook rice and prepare hot water while cleaning the house' (*Farmer 3, Antique, Philippines*).

In Myanmar, women farmers repeatedly said that it is usually women who bear most of the care and reproductive responsibilities such as cooking, cleaning, and taking care of children as well as looking after livestock and working on the farm. One farmer told us: 'I had to take care of the children ... Women are housewives and do housework' (*Farmer 2, Mandalay, Myanmar*). Women farmers had no choice but to add schooling to their existing housework and farming responsibilities. Among all the farmers that we interviewed, it was typically understood that men were the ones who would go out to 'work', and they were not obliged to help with household chores (which was not considered to be 'work') or to pay any attention to the farming tasks that need to be done. In the Philippines, some

women also described how girls are taught to do household tasks from a young age, and how they would delegate the household chores and childcare to their daughters. One farmer in the Philippines told us, for example: 'I can depend on the girl, my third-born. She can somehow do household chores only and now with her [school] module as well, she is also getting the food ready' (*Farmer 11, Iloilo, Philippines*).

The added demands of homeschooling brought underlying gender norms to the fore. Several of the women that we interviewed had been reflecting on the inequalities of the gendered divisions of labour in their households, and they articulated this in interviews and focus groups. Farmers in Papua New Guinea said that they felt that their care responsibilities had increased and several reported that their husbands did not support them. While the extent of disparity varied between and across countries, one farmer in Papua New Guinea told us:

Father is just sitting down and we mothers, we struggle to go find market to come and go and sell to get money to feed the children. We really struggle. Fathers just relax and mothers, we really try our best to feed the children, put money for school fees so it was like a burden to us mothers during this COVID-19 (*Farmer 3, Madang, Papua New Guinea*).

Another farmer described how the added demands brought by the pandemic impacted her life:

I'm one parent in the home. My husband is not always there to support me and the children, or even working in the garden. When the kids, when they were sent home, they came home with stacks and stacks of projects and assignments and homework and everything, so for me to get the children going in school and go back to the garden was just really hectic (*Farmer 7, Alotau, Papua New Guinea*).

However, other women (in the same focus group) described how their husbands had assisted as 'mother' (*Vendor 2, Alotau, Papua New Guinea*) during the lockdowns so they could continue vending. This narrative of 'switching' gender roles and responsibilities was rare. Across multiple sites, regardless of who was living in the household or the age of the women interviewed, women referred to food security, care, and budgeting as their responsibility. With this responsibility came the expectation that women would take on the risk of these burdens.

Vendors in Myanmar highlighted the increased burden upon women during the pandemic. One said that her time was fully occupied with work, chores, and taking care of children:

As a married woman, I had no leave or holiday. For household duties not only as a wife but also as a mother, I usually do cooking and washing clothes while running my stall and teach my children with their study during my free time in the afternoon (*Vendor 7, Irrawaddy, Myanmar*).

In the Philippines, some vendors told us that their children were given household chores during the day when they were attending to their stalls. While some responsibilities were shared out among the other members of the family, women's domestic roles started again as soon as they returned home from work:

Yes, they help. They are the ones who close the store, to cook rice, food, just that. Yes, they help. In the evening, I'm the one who cleans when I go home. They help in the house during the day (*Vendor 11, Antique, Philippines*).

In addition to working to provide for their immediate family, some of the vendors that we interviewed told us that they were also expected to extend financial support to their adult children and their families. One market vendor in the Philippines said that her ‘worries had been doubled’ since the beginning of the pandemic, describing intergenerational responsibilities of care:

My son got married, then [had a child]. Instead of just us only, you have to support [him] because he’s still your son. Or, if you push them away...you cannot do it; you really need to help them. So sometimes for the diapers or milk, it’s still me. What can they buy since they’re all students? They can’t do anything (*Vendor 12, Antique, Philippines*).

Another market vendor who was a single parent told us that: ‘It’s hard being a mother and a father...because my job is a mother and the job of a father is my job as well’ (*Vendor 9, Antique, Philippines*).

Despite the added labour of caring for children at home, both farmers and vendors across the three countries expressed deep concern about the impact of school closures on their children’s future opportunities. When women spoke about access to income to continue their children’s education (to pay for school fees, books, uniforms, etc.), it was described as a significant concern across all three countries and second only to food affordability.

Increased business costs, decreased income, and economic insecurity

Both farmers and vendors reported a loss of income because of the effects of, or responses to, the pandemic. While these impacts varied at different stages of the pandemic, many of the vendors that we interviewed described the accumulative impact of the pandemic. For example, one vendor in Myanmar told us that she ‘could still make a good sale from the first wave to the second wave of COVID, but I couldn’t get back on my feet again at all in the recent third wave’ (*Vendor 6, Mandalay, Myanmar*). In this instance, the vendor was renting and had to give up her stall or take on additional debt.

Among the farmers that we interviewed, women frequently reported increased costs for agricultural inputs such as seed, fuel, fertilizer, and labour. For example, one farmer interviewed in Antique said:

[It’s] too much, that’s the problem now. Fertilizer is expensive. The price of the pesticide is expensive. Then, once we have a product, it seems that businessmen are almost asking for it [for free]. It’s really like that. Then sometimes you don’t seem to have an option... because the prices are somehow the same (*Farmer 3, Antique, Philippines*).

In all three countries, farmers referred to the farming conditions being difficult and costly before the pandemic, and the impacts of COVID-19 compounded this. They listed two interconnected difficulties: Rising costs (of seeds, fertilizer, and equipment) and weather impacts. The economic cost of increases to input costs was compounded by poor harvests. In the Philippines, farmers noted that ‘almost everyone has a poor harvest right now’ (*Farmer 13, Iloilo, Philippines*), which made the increase in the cost of farm inputs such as fertilizers, seedlings, pesticides, and labour even more difficult to navigate.

Farmers in Myanmar also reported an increase in the cost of fertilizer and pesticides. There were different explanations provided for the increase: Some attributed

it to the pandemic, some to the ‘instability’ (coup), and others to farming as being more difficult due to climate and costs. In Irrawaddy, prices doubled. The cost of seeds also rose. One farmer said that: ‘Seeds for the crops are getting expensive.’ She said that ‘it used to be like 60,000 MMK but now it is 100,000 MMK for one bag...so one tin would cost 1 million MMK’ (*Farmer 15, Irrawaddy, Myanmar*). One farmer in the Mandalay sighed when she discussed the impact of COVID-19:

I think the outbreak has continued to affect the price of food because it is not easy for the price to fall once it gets higher. But farmers’ produce does not get a good price and the cost of produce is not just doubled. The fertilizers price was 23,000 MMK last year but now it is 60,000 MMK. Currently, the buying price of onions is very low. (*Farmer 14, Mandalay, Myanmar*).

Only one of the farmers we interviewed in the Mandalay said that she didn’t have any worries about her farm before the pandemic. The combination of higher costs, instability brought about by the pandemic, and the conflict with urban and rural guerrilla warfare made business much more difficult, impacting incomes.

In Papua New Guinea, one farmer described how a loss of income meant that she couldn’t purchase necessary household goods:

We are just village mothers. We sell our garden food to support our husbands and children but after COVID-19, we no longer sell our produce and it made it very difficult for us to buy store goods like soap, salt, and oil. But now with COVID, we aren’t able to sell and aren’t able to buy these small things for us (*Farmer 10, Goroka, Papua New Guinea*).

Another farmer in Papua New Guinea described how market restrictions had impacted her sales:

Market was very restricted, so many of us, they put us market in zones each day so if the Yalavas are marketing on that (particular) day, the Maramatana, West Tau’ala, East Tau’ala, we are not marketing on that, they stop us not to come and sell. And most of our goods are... we bring fruits and they’re rotten and oily, so I see that that it was a big problem for us when COVID-19 came (*Farmer 8, Alotau, Papua New Guinea*).

In Myanmar, farmers mostly owned their land (in contrast to Papua New Guinea and the Philippines interviewees) and did not seem to have experienced a severe shortage of food, but they struggled to afford their general expenses due to the lack of regular income. One explained how she had to send her eldest daughter to work at a gas station nearby in order to support the family while her school was closed.

Vendors (irrespective of whether they owned or rented their stalls) experienced significant impacts to their income. Restrictions on commerce (including curfews, social distancing requirements, and limitations to market trading hours) meant that vendors across all study locations had to limit their vending hours, resulting in a loss of income.

In the Philippines, curfews were imposed, which shortened usual business hours. As one vendor in Antique said, vendors needed to close their stalls ‘early, because there’s a curfew there’. She explained that:

It’s prohibited to stay late. You need to be gone by 5 o’clock. Well, it’s needed and there on our road there in Eganía, there’s traffic there that – no one should pass, so at around three o’clock, Ma’am, I should go home already because I’m just walking (*Vendor 7, Antique, Philippines*).

Markets are often not near vendors' homes. During lockdown, the risk and costs of travel added to time and income pressures. Several vendors interviewed in Antique described how the location of a new public market, located a few kilometers away from the town centre, prevented people from coming to the market and buying their products:

It has become worse since the pandemic; there are no people who come here to buy, as you can see there's no people roaming around here in the market (*Vendor 10, Antique, Philippines*).

It became impractical for people to travel to the town's public market since the movement was restricted to limit the growth of COVID-19 cases, and this resulted in reduced sales and income for many market vendors. This was a similar experience in Papua New Guinea, where journeys to the town market could be lengthy and logistically difficult during the lockdowns. For farmers in Papua New Guinea who travelled to towns to sell their produce, one of the biggest concerns was intimidation from the police. Several farmers and market vendors described police intimidation and threats of violence, which resulted in high levels of fear and stress among women trying to sell their produce. For example, one farmer described how, because police would rush farmers, she would drastically lower the cost of her produce so that she could leave the market and 'walk home quickly' (*Farmer 7, Alotau, Papua New Guinea*). Another described the risk of being 'chased by police' and said that – unlike vendors who live in the town – farmers who came to town from villages to sell their produce 'don't know where to run to' (*Farmer 10, Goroka, Papua New Guinea*). As a result, 'we are selling in bags just from the car and going back home; not making as much as we would if we sat and sold individually' (*Ibid*).

Rising food and household costs

Women across all research sites described increased food prices (in staple goods) and increased or additional household costs. Suddenly there were additional household costs, such as those relating to education (e.g. phone credit or internet to facilitate online learning during lockdowns), health (Personal Protective Equipment [PPE] and medicine), and transport (at different times of the lockdown, bus services stopped in Papua New Guinea and the Philippines, so women had to walk or hire private transport to reach markets). Women just had to absorb these costs to continue their labour.

The extra costs associated with online and remote learning posed significant challenges, especially for poor households. Many of the women that we interviewed mentioned the burden of having to pay for phone credit or, in rare cases, buy new technology (like cell phones and laptops) so that their children could continue their schooling. The locations of our interviews were rural areas with poor internet connectivity so download costs were high. The women we interviewed described additional unanticipated costs including phone credit and internet costs, cell phones, and additional household bills (e.g. for electricity and water). One market vendor in the Philippines could not afford these costs, and so her children were unable to continue their education: 'They are just at home, they are not wandering around. Just at home. It's hard, of course, because there's no cellphone' (*Vendor 2, Antique, Philippines*).

A farmer in Papua New Guinea described the impact of these additional costs:

After COVID-19, the schools want the students to send in their assignments through email and the children need internet to access email. I don't have money to spend money on flex (phone credit) every day. Another thing is schools are asking students to have an Android phone so they can send assignments and homework to them through email. So, I have to buy a phone for my children. I can't afford to buy phone and flex cards (*Farmer 11, Goroka, Papua New Guinea*).

Women also frequently described the extra costs involved to protect themselves and their children from COVID-19 infection. One woman in Papua New Guinea describes the financial and emotional burden of the responsibility to care for her and her families' health:

They (government) told us that those who have money they can help their family and those of you who don't – you are on your own. These kind of remarks made us feel bad. They said we should not be spending all our money; we have to spend wisely to take care of our family if they happen to be sick or in danger. That's why we are really suffering. Whatever little money that we have, we managed it wisely to look after our family and support us during emergencies or to the hospital (*Farmer 7, Goroka, Papua New Guinea*).

Another farmer in Papua New Guinea told us that, because of COVID-19, all health clinics were closed and 'even medicines sold in [the] pharmacy were gone'. Because of this:

Health officers advised us to go home and practice COVID-19 protocols and buy lemons and drink two times a day. But lemons are also expensive at the market because of COVID-19. For us, the dry season has made it another problem as our lemon trees are not bearing fruit, so I had to pay K2 for 4 lemons at the market, which is expensive (*Farmer 4, Goroka, Papua New Guinea*).

Being told they were 'on their own' in turn changed their spending priorities. For example, some of the vendors and farmers we interviewed opted to buy vitamins, medicines, and other basic needs to protect themselves. Consequently, medicine costs increased. In Irrawaddy, one farmer said: 'Before COVID-19, the price of medicine was fair. But now they are expensive. For example, the Para⁵ we used cost 1000 MMK. In the past it was not that much' (*Farmer 5, Irrawaddy, Myanmar*). In the Central Dry Zone (Mandalay) of Myanmar, all but one of the vendors that we interviewed indicated that the extra cost of PPE created a financial challenge. One explained that she had to pay 3500 MMK for a box of masks, and for the same price, she could buy 4kg of rice, which could feed her family for four days. She could also 'not afford to buy hand gels because I don't have extra income for it' (*Vendor 10, Mandalay, Myanmar*). Similarly, all but two of the vendors we interviewed in Irrawaddy reported extra costs impacting their household budget, specifically masks, hand gel, and soap: 'Of course, masks and hand gel were extra costs, costing 3000/4000MMK' (*Vendor 2, Irrawaddy, Myanmar*).

Food price increases were observed across all research sites. In Myanmar, all vendors (12, who sold fruit and vegetables) interviewed in Mandalay reported that the price of food they had to purchase – such as fish, meat, rice, and cooking oils – increased. Some items, such as garlic, increased to fourfold the original price (1800 MMK to 7500 MMK) during the pandemic, and one viss (Myanmar unit of measurement) of chicken doubled from 4000 MMK to 8000 MMK since the beginning of the pandemic. Women vendors (who sold flowers, fruit and vegetables) in the Irrawaddy region also reported increases in food prices, which meant that they

could not buy as much food as they normally would – instead purchasing small amounts frequently. One vendor said, for example: ‘We just do it with the handful we have. We couldn’t buy things in advance and store them. We can buy only a handful’ (*Vendor 1, Irrawaddy, Myanmar*). Another said that ‘it was hard to get cooking oil. Now the price of cooking oil is going up. We used to buy it for 24,000 MMK and it is now 37,000 MMK. All prices are going up now’ (*Vendor 7, Irrawaddy, Myanmar*). Three market vendors interviewed in Irrawaddy described how an increase in wholesale prices meant they had to increase the selling prices of their goods, even though demand for the products had gone down. One vendor told us: ‘In the past, one bundle of roselle (hibiscus flower) is not much...around 20–30 MMK, you know. But now, I pay 70 MMK per bundle’ (*Vendor 12, Irrawaddy, Myanmar*). Four vendors interviewed in Irrawaddy said that they worried about the increasing wholesale buying prices, which impacted their selling prices.

In some regions of the Philippines, local governments introduced mobile markets (vehicles that travelled around town selling food to multiple neighborhoods on a schedule) during the pandemic to decrease attendance at the permanent markets in the town centre. Though these were convenient for some locals, the female farmers and vendors that we interviewed said that ‘the pricing is different of course: it became expensive’ (*Farmer 8, Antique, Philippines*). The women we interviewed reported they had to budget for higher prices for the food items they had to purchase to eat, including for fish, meat, fruit, rice, and [a variety of] vegetables. One vendor told us that ‘the price of pork, rice, everything essential, [including] fruits – the pricing is too much now... it’s limited, and too expensive’ (*Vendor 2, Antique, Philippines*).

The majority of women we interviewed were not eligible for the (few) social welfare supports provided. The few women who were aware of these welfare measures described feelings of stress and shame in having to come forward for these supports. Indeed, across the three countries, few women were even aware of the small number of social welfare supports available to them during their financial and food distress (i.e. all of the women we interviewed [technically] met the criteria for three social welfare measures in Myanmar, two measures in Papua New Guinea, and five in the Philippines (see [Table 3](#)). The majority of the women we interviewed did not qualify for access to policy support as ‘farmers’ or ‘business’ owners due to their informal work, or having farms and businesses that earned too little income to qualify for government support. Our findings suggest that gendered norms and expectations, including women’s free time, access to transport and registration papers, their informal labour burdens with (expected) social reproduction responsibilities, created an economic and policy blind spot for governments.

Food insecurity and risks

In response to increased food prices, women frequently reported either reducing their food consumption or adapting their consumption (i.e. purchasing cheaper products or brands, or eating lesser quantities of expensive foods such as meat). Only five of the 25 farmers interviewed in Myanmar said that they experienced no shortage of food but acknowledged they could not afford to buy some items because of increases in prices. Three farmers interviewed reported having to reduce

Table 3. UNDP Global gender response tracker, 2020–2021.

Country	All Measures	Gender sensitive	Unpaid care	Violence against women	Women's economic security
Myanmar	22	14	–	6	8*
Papua New Guinea	4	1	–	–	1#
Philippines	366	6	–	1	5~

*In Myanmar, three measures of specific relevance to the women interviewed in this project: 1 May 2020: agriculture input e-voucher worth 120,000 for 300,000 farmers (those with less than 2 acre land) especially 'women led households with returning migrants, households of ethnic minority, and households led by persons who are older than 45 of farmers through'; June–September 2020: a cash for work scheme to provide jobs for unemployed and impoverished; and 11 December 2020: Emergency Food Rations to vulnerable households and at risks populations.

In Papua New Guinea, two measures of specific relevance to the women interviewed in this project: 1 April 2020: \$38 million spend on nationwide food security activities, including distribution of food rations during April–December 2020. Main recipients: those affected by income and job losses, especially in urban areas 'where they have fewer means to grow their own food'; 1 September 2020: the government announced \$57.3 million USD stimulus for small businesses struggling during the pandemic available in the form of loans from Bank South Pacific and National Development Bank. The interest rate will be low and repayment terms will extend over 15–20 years. The money would be available to sectors including agriculture, ventures for youth, woman-alone businesses.

~ In Philippines, five measures of specific relevance to women interviewed in this project: 14 May 2020: Department of Agriculture (DA) distributed P5,000 cash subsidy to 600,000 rice farmers. The Financial Subsidy to Rice Farmers (FSRF) to assist small rice farmers, who plant one hectare or less, located in 24 provinces not covered under the Rice Farmers Financial Assistance (RFFA) program. 21 October 2020: Livelihood assistance grants (LAG) for families whose livelihood took a dip due to the quarantine measures amid the health crisis. Qualified beneficiaries of LAG will receive financial assistance not exceeding PHP15,000. LAG prioritizes households with low-income families in the informal sector, including 'house helpers' (domestic workers), or whose small business has been affected by the pandemic. 18 September 2020: The Department of Agriculture (DA) allocated P400 million (M) under the 'Bayanihan to Recover As One Act' or 'Bayanihan 2' to further expand the Duterte administration's urban agriculture program and attain family household food security. Distribute the edible Landscaping starter kit (packet of assorted vegetable seeds, a 'how to plant' brochure, and sample designs for a pocket garden, container garden, and community garden). 11 December 2020: Under Bayanihan 2, subsidies and allowances to 60,000 qualified students in public and private elementary, secondary and tertiary education whose families are facing financial difficulties due to COVID-19. Also provide access to free, healthy meals to undernourished children. Food provisions are distributed by the Disaster Response Management Group. 21 February 2021: Extended the credit guarantee lines to September 2021 and made them available to more types of businesses including micro, small and medium-sized enterprises (MSMEs), manufacturing, housing, agriculture, and other areas of the economy to support businesses during the COVID-19 pandemic. 14 May 2021: The Department of Agriculture to give assistance to 800,000 farmers through the ₱24-billion budget for the sector under the Bayanihan to Recover as One Act, or the Bayanihan 2. ₱4 billion set aside for other sectors, namely fisheries, upland agriculture, coconut, and sugarcane industries. To qualify, farmers need to be registered in the Registry System for Basic Sectors in Agriculture.

Source: UN. 2022. COVID-19 Global Gender Response Tracker. Accessed June 2022.

their food intake (from three meals to two per day) and the remaining participants (17) said that while they were still able to eat three meals a day, they were eating more rice and vegetables and less meat.

Of the 12 food vendors interviewed in Mandalay, two described having to reduce their food intake to two meals each day instead of three because 'we can't afford three meals a day' (MMAIWD V23). Five of the 12 Mandalay vendors that we interviewed said they had reduced their food intake (not meals) during COVID-19, and two reported altering the ingredients of cooking rather than reducing the meals (e.g. by changing to a cheaper type of rice, using less cooking oil, eating more rice and vegetables, mixing meat with other ingredients such as potato, and eating less meat and fish). One food vendor in Mandalay

described how, in response to increased prices, she would make her meals stretch further:

For 1500 kyats of chicken, we mixed three or four parts of chicken with potatoes and ate that till the next day. So, it was for two days (*Vendor 8, Mandalay, Myanmar*).

Another food vendor in Mandalay said that she reduced the portion of breakfast and ate more for lunch and dinner during the pandemic. Another explained how, while she did not reduce her intake of food, she consumed less meat and oil since the pandemic had begun. She also described paying for cooking oil and rice in instalments:

In the beginning, I paid 2,000 MMK per day for buying cooking oil in instalments. It was 25,000 MMK per 9 liters of cooking oil. As I am selling vegetables in the market every day, I have some regular income, so I took a nine-liter [bottle] of cooking oil from the shop and paid 2,000 MMK each day. It is the same with buying rice; I cannot buy the whole bag of rice so pay 2,000/3,000 MMK daily. I try to stay economical in every possible way with spending during the COVID-19 period (*Vendor 10, Mandalay, Myanmar*).

Of the 13 vendors in Irrawaddy, Myanmar, all reported that some medicines, potatoes, dry tea leaves, and cooking oil were out of stock within a few months because of travel restrictions and transport disruptions, which meant prices for these staples rose. Making meals go further by reducing portions, replacing food staple items, and forgoing food items was commonplace (i.e. *Vendor 7, Irrawaddy, Myanmar*).

In the Philippines, women were more likely to report limiting their food intake by skipping meals or reducing portion sizes in response to price increases. One farmer in Iloilo said: 'You just take it slow when eating...just a little, just a little, so you won't get too hungry' (*Farmer 3, Iloilo, Philippines*). Another said that while they did not go without food, 'you could not look for some delicious [food], like nutritious [food]' (*Farmer 12, Iloilo, Philippines*). One food vendor in Antique said that she had 'already experienced eating rarely', and described saving 'cold rice' to have for dinner rather than eating it for breakfast (*Vendor 10, Antique, Philippines*). Most market vendors interviewed in the Philippines (25) opted to eat vegetables and rice because they were the cheapest and most nutritious. For vendors, the increase in prices meant less food on the table or limiting meals from three to two a day:

So that was it, we could... sometimes we could still eat three times a day, sometimes, twice only [laughs] (*Vendor 11, Iloilo, Philippines*).

Yes, it became smaller. The food you wanted to buy before – anything you like. Like, for example, you can eat up to three dishes before. Now, you're ok with just one (*Vendor 2, Iloilo, Philippines*).

Farmers and vendors in Papua New Guinea described similar challenges. One farmer said, for example:

I have two children at the high school and one in tertiary and during this time, selling crops at the market, I earn big too to afford to sustain these three. ... I hardly drink tea because I wanted my children to get the best education (*Farmer 4, Alotau, Papua New Guinea*).

For most of the farmers that we interviewed across all three countries, food shortages to the extent of missing meals were not a significant concern at this stage because they could eat the food that they normally produced for sale – or they already had established a garden for subsistence. While this would have a long-term impact on their farming incomes, we found that farmers were more food secure than vendors across the three countries. This was not the case for vendors. The increase in food prices had a double impact on food vendors: As well as impacting household food consumption, increased food costs made it more difficult to purchase stock, thus impacting their income and having a compounding effect on household food security.

Across all the countries studied, women described making these choices even before lockdowns arrived in their communities. We heard women discuss limiting their individual and sometimes household food consumption or making changes to their food consumption, such as eating less meat or rice and purchasing cheaper brands or products. They all referred to the anticipation of rising prices that led their adaptive behaviours. In almost all cases, consumption changes were due to anticipated or actual increases in food prices and/or a decrease in income, rather than due to a lack of food supply, which supports prior findings (Ayittey et al., 2020; Dodd et al., 2021, p. 1; Sarker, 2021, p. 599; Picchioni et al., 2021, pp. 1–2).

Discussion and conclusion

Our findings were consistent with other COVID-19 rapid gender assessments in that we identified overwhelmingly harmful socio-economic impacts of the COVID-19 responses on women already close to the poverty line (UN Women, 2021, p. 5). We found that while women in each of the three countries examined were being impacted by COVID-19 at different stages of the pandemic and in distinct political, economic, climatic, and social contexts, *all* women described an impact on their labour, processes of reproduction, and private household dynamics. Their primary concerns were not having enough food to eat, the increasing prices of food and other household products (such as medicine), additional household costs (such as those associated with online or remote learning and PPE), having to work while caring, and ensuring that children could attend school (and making sacrifices to achieve this).

Women's food insecurity during the COVID-19 pandemic has been shaped by their roles performing the bulk of reproductive work and care in their households and communities. The women that we interviewed were self-employed in rural locations as farmers or food vendors and combined their labour with the unremunerated tasks of caring for their families and performing most of the domestic work in their households. As a result of the pandemic, women's unpaid work increased, largely due to school closures and the added demands of caring for children and facilitating homeschooling. Compounding this, women's income *decreased* for several reasons: Increased time poverty left less time to earn income and restrictions on trade and movement meant that vendors had to limit their time selling and farmers had to restrict travel and therefore sold less produce. Further, women's high representation in informal and self-employment (which, in typical times, allowed them to juggle paid and unpaid work) meant that they were highly vulnerable to the economic disruption during the pandemic. All of the women

interviewed experienced a decrease in income. Informal workers rarely have access to employment safeguards and women had limited information and access to social welfare across the three countries.

Finally, in addition to having less income, food (and other household items) became more expensive. Significantly, women reported adaptive behavioural changes in response to reduced income and additional costs: they ate less food to afford PPE, they forwent PPE to purchase food, and they began to ration food before the crisis hit their province. We also heard women, across all countries, seeking loans to cover stall rent, land rent, and cost of living, and there was a significant number of women who tried to conduct business in breach of restrictions to earn income despite the risk of fines, bribery, and physical violence. Unique to our findings were women's descriptions, across all three countries, of these risk-management behaviors, adopted to mitigate food insecurity. In each country, it is typically women's responsibility to manage household food security and many of the risk-management behaviours described made women vulnerable to poor health and illness, as well as economic and potential physical insecurity.

These findings show that women's roles in performing the bulk of work and care involved in social reproduction places them at considerable and *specific* health, safety, and financial risk. While women interviewed referred to all adults in their households experiencing food insecurity, our study shows how women's roles in social reproduction shapes their vulnerability to particular health and economic risk because household food security was generally their responsibility. Our study confirms Lombardozi's finding that gendered social norms shape how women's farming and vending contributions are framed as 'help' rather than 'work' and are thus underestimated when it comes to reflecting material and financial rewards within the household (Lombardozi, 2022, p. 1884). In a crisis, who is considered to 'work' is a vital measure of who should have access to welfare support. Women's work as farmers and vendors was an economic and policy blind spot for governments.

Our findings contribute to existing literature showing that the impacts of crises are gendered (Hozic and True, 2016; Tanyag, 2018). This 'crisis within a crisis' was due to a collective failure to recognize the pre-existing economic and social precarity of some populations compared to others (Stevano et al., 2021). Amongst populations who are impoverished and reliant on an informal income, the dynamics of gendered care work is already intergenerational (Chant, 2007). Crises such as COVID-19 may entrench these patterns with long-term implications that merit further study.

Based on the findings and analysis of this study, we argue that consideration of reproductive labour must be centered in future national-level economic and expert committee responses to all crisis events. Such an approach would acknowledge the significance of reproductive labour to (inter)national political economy and, in turn, the impact of a crisis on reproductive labour on intergenerational food security and poverty.

Notes

1. In the article we use the phrase 'vendors' but some women also refer to themselves as 'market stallholders'. The criteria for selection are discussed in methodology.
2. The project was funded by the Australian Centre for International Agricultural Research, Australian Government. Access to the interview and focus group instrument is available: <https://research.aciar.gov.au/indopacgendernet/publications-and-training/>

3. The interview and focus group instruments, the participant information summary, the recruitment communication information and processes, as well as COVID-19 safety protocols, received ethical review board approval from Griffith University in April 2021. Details available: <https://research.aciar.gov.au/indopacgendernet/publications-and-training/>
4. Women farmers and vendors in Papua New Guinea referred to themselves as having children or grandchildren in the focus group discussion, but individual participant data on number and age of (grand)children was not collected.
5. Common name for a drug used to treat tuberculosis.

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