Improving Policy Response to the Differentiated Impacts of High and Volatile Food Prices on Rural Women

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ABSTRACT

In a high and volatile food price setting, two aspects determine rural women's ability to absorb and respond to shocks: the inequalities that create a gender gap in rural development and women's traditional roles in society. This chapter points to these two aspects that in general terms reduce women's ability to cope with food price volatility. Rural women, traditionally responsible for providing food and health in the household, face major constraints in fulfilling their roles, rendering them more vulnerable to food price spikes. Major recommendations include building on rural women's resiliency and mitigating negative coping strategies by reducing gender inequalities in rural development and by providing safety-nets that are appropriately designed to address rural women's needs and limitations. Gender gaps in rural development refer to those in access to resources; better paying jobs; infrastructure, public services, agricultural extension and technologies, and levels of participation in farmers organizations and other public institutions. Better design in safety-nets and other social protection programs refer to including mechanisms that are culturally sensitive, reduce women's time burden, and provide the necessary transportation, child care facilities, and other services and mechanisms that ensure their participation. Gender-transformative approaches in the implementation of policies and programs, including capacity development on gender roles for the household as a whole, are essential for ending discrimination against women which constraint their economic and social empowerment. Additional areas of research include gender-differentiated impacts of high food prices and volatility, both at the individual and household levels, and the effectiveness of safety-nets and other social protection programs designed to address rural women-specific needs.

1. INTRODUCTION

Rural women[2] experience shocks[3] more severely than men do (Brydon and Chant, 1989). To mitigate the negative effects of high and volatile food prices, policy design must account for the systemic barriers and social roles that determine their differentiated impacts on women. Two main aspects determine gender-differentiated impacts and a woman's ability to cope with them:

1) Social inequalities that create a gender gap in rural development limit women's access to productive resources, better paid jobs, social participation and political representation, placing women in a more vulnerable position to buffer food price shocks than men.

2) Both women's roles in society linked to their reproductive responsibilities, and culturally-driven intra-household dynamics determine coping behaviors that can result in more harmful impacts for women, even if women have demonstrated better adaptive capacities than men in times of crisis.

The aim of this chapter is to analyze these two aspects that in general terms reduce rural women's ability to cope with sudden food price spikes, and provide recommendations on what could be done in order to prevent negative coping strategies (i.e. asset depletion, skipping and reducing meals, pulling children out of school), and mitigate their negative impacts (i.e. malnutrition, widening gap in education, increase in time burden, migration and family abandonment), while enhancing women's ability to cope (i.e. through social safety nets and access to better employment opportunities).

In order for countries to better respond to high and volatile food prices, it will be necessary to refine policy design by improving monitoring and research on the gender-differentiated impacts of high food prices and volatility, and conduct more evaluations of projects and programs that aim at supporting rural women before and during times of crises. Better research would also bring to light areas where rural women could benefit from higher food prices and mechanisms that enhance their highly adaptive capacities to cope.

[2] While this paper most often refers to women, girls and female-headed households in the general term, it is important to recognize that the severity of high food prices' impacts on women differs depending on important contextual factors, - such as gender and equality indices, culture, discrimination- as well as intra-household factors - including number of dependents, marital status, age, and power dynamics in terms of asset control and decision-making.

[3] For this paper, unless otherwise specified the term "shock" refers to negative shocks, as opposed to positive shocks such as winning the lottery. Also, given that the increase of food prices is a covariate shock, we generalize that the policy responses indicated in this chapter may apply to other shocks, but particularly to covariate shocks.

Female-headed households particularly harmed by the 2007/08 food security crisis

Although there have been shocks before, price volatility in the global agricultural markets is a relatively new phenomenon and thus most studies look towards relevant findings from the sudden onset of high prices in 2007/08 to envisage the potential risks. Research into specific impacts on vulnerable groups and their coping behaviors taken during the 2007/08 food price crisis, specifically gender differentiated ones, are scarce; however, the little evidence available shows that female-headed households (FHH) were particularly harmed:

A review of the existing evidence on the impacts of the 2007/08 food security crisis states that within the poor and marginal food consumption groups, FHHs were 1.6 times more likely to be food insecure than male-headed ones (Compton et al., 2011). In addition, Kumar and Quisumbing (2011) support this finding with empirical evidence from Ethiopia during the 2007/08 crisis, showing that FHHs experienced the food price shock more often, were more vulnerable to food price changes, and were also less able to recover the losses post-crisis than male-headed households (MHHs). More importantly, their analysis highlights the relevance of households' pre-crisis resiliency to cope: due to inadequate resources, specifically unequal access to land, FHHs experienced on average greater difficulty in fulfilling their food consumption needs than MHHs (Kumar and Quisumbing, 2011).

In order to supplement the limited information specifically on the implications of food price volatility, this analysis draws from observations and studies of household and individual response in times of other shocks, including droughts, famines, and economic crises, as well as seasonal adjustments made in food insecure households. Economic crises exemplify household adjustments made during periods of decreased ability to expend income on food, as happened with the incidence of sudden spikes in food prices. Natural disasters, such as drought and floods, relate to coping strategies adopted when food on the market is less available or agricultural households experience shocks in production. Finally, households during times of famine demonstrate the dire situation of food insecurity, as was reported during 2007/08, and serve as a warning of the possible impacts of future global food price shocks. As a result of lack of evidence at the individual level, comparisons between male- and female- headed households[4] are often used to exemplify the disparities in accessing resources to build buffer assets and to cope with crisis.

[4] Female-headed households include: *de jure* female-headed households in which the female head is single or widowed; and *de facto* female-headed households in which the male partner, though not physically present in the household, continues to influence larger decisions- by and large he is not involved in day-to-day decisions and activities. Female-headed households may also be in a polygamous marital situation.

2. HIGH AND VOLATILE FOOD PRICES: WOMEN ARE AFFECTED DIFFERENTLY

Social inequalities in rural development limit the ability of producers not only to benefit from high prices, but also to respond and meet increasing food demands. While this is generally true for small producers, we focus on rural women as they are disproportionately represented among those under-served by institutional support, and less likely to experience quality income opportunities and access to financial resources. Furthermore, the stress of food-security shocks particularly affects rural women who are traditionally responsible for food consumption and food preparation in the household.

2.1 THE GENDER GAP DECREASES RURAL WOMEN'S RESILIENCY

The gender gap in rural development creates strong barriers for women's resiliency. Equal and adequate access to resources would allow women to increase their productivity and earning potential as well as enable savings and investing. Without equal and better access, women remain in a more vulnerable position to shocks than men, and with severe consequences for their households and communities.

The Gender Gap in Rural Labor and the Implications of Male Migration

Since the 1980s, major policy changes have occurred in the agricultural landscape towards more commercial agriculture and away from smallholder family agriculture. The result of decreasing state support has contributed to an increase in rural household's diversification of livelihood strategies, as these increasingly pursue non-farm employment, rural or urban, formal or informal (Razavi, 2009). In this context, income from wage employment has become fundamental for supporting family agricultural practices (Smith and Stevens, 1988); diversifying risk, as well as substituting for the lack of formal finance opportunities often missing in rural settings (Hernandez et al., 2010); however, evidence has shown that it is more difficult for women to access this form of employment. For women, limitations to access salaried employment (which has a higher probability of both being better-paid and including employment benefits) come mostly from inequalities in education, training and access to markets, and are compounded by the time burden of domestic unpaid work, making much of women's work seasonal, unpaid, subsistence-based and small-scale (FAO, 2010).

Similarly, the inability for men to access rural employment affects household food security. This can become more acute in times of high food prices when males migrate in search of higher income or additional employment, leaving behind *de facto* FHHs, and not always sending remittances during the time they remain away. For example,

IDS (2009) reported that in Kenya male migration was a common strategy during the food security crisis of 2007/08; however, women complained of their husbands' abandonment as they did not return nor send remittances. Although remittances may provide great support to female-headed households, these would have to reach them in a reliable and constant pattern that responds to price volatility. Thus, households with new outmigrants caused by food price shocks may not be able to rely on remittances as these may reach households much later than needed.

Male migration also has implications for agricultural labor and farm productivity, diminishing women's ability to respond to food price changes: women who suddenly face with the family farm's management may have to wait for their husbands' approval before making decisions, such as planting a different crop or hiring labor (Coon, 2008). Cases similar to that in southeastern Mexico (Radel et al., 2012), where it is not socially acceptable for women to work in the field during their husbands' absence (even when they are not able to hire labor), or in places where religious codes prevent women from leaving the family holding without being accompanied by male household members, are examples of social roles and values that prevent women from acting as independent farmers, worsening their constraints.

The Gender Gap in Productive Resources

Female farmers often lack key productive resources, such as land and capital, and the ability to hire labor, purchase inputs, and access marketing channels (Razavi, 2009). Land in particular is a crucial resource for food security in rural areas, yet women tend to manage smaller plots of land, often of inferior quality and with insecure tenure[5] (FAO, 2011a). Insecure property rights are also often listed as a symptom of women's inability to access appropriate credit services, limiting necessary collateral to access formal institutional financial support (Fletschner and Kelly, 2011).

Observations of the 2007/08 food security crisis conclude that those who are able to profit from high price levels are those with a large market share, substantial access to credit or other financial resources, and infrastructure (ISFP, 2011). Thus, women farmers' reduced access to productive resources in agriculture means that they are poorly equipped to increase farm productivity (FAO 2011a; World Bank 2011) and unable to benefit from high prices or to meet increased food demands. Faced with these systematic biases against ownership and control over productive resources, many women are unable to invest during food price shocks, even if inclined to do so (Holmes, et al., 2009).

The Gender Gap in Financial Services

[5] Insecure tenure means that women are much less likely to have land titled under their name, even when their families own land, and are less likely than men to have control over land, even when they do formally own it (Agarwal, 2011).

Formal credit[6] becomes more important in times of high food prices, as alternative mechanisms and resources such as community support and social capital can be strained. Accessible credit can not only help households adjust to higher prices and maintain food consumption, but also improve purchasing and investment opportunities for future production among households with better capacity of repayment. It also allows households to purchase larger amounts up front, and enables them to make investments in order to improve food storage. In fact, credit (both formal and informal) was a major source of income used to buffer the high food prices in 2007/08 and was an important support for production (Compton et al., 2011).[7] However, minimal access to formal credit and savings often keeps poor households from easily buffering high food prices (Prakash, 2009; Compton et al., 2011; IDS, 2009). When not able to buy food in large quantities, households are more likely to pay higher prices over time for the same quantity of food (Anriquez, 2008).[8]

Women tend to have unequal and inadequate access to financial resources (credit, savings and insurance), not to hold bank accounts, and not to have collateral such as land. Institutionally, women may be at a disadvantage given the following: credit institutions do not fund activities usually run by women; credit requirements are not widely known; women guarantors are not accepted; and they receive smaller loans for similar activities than men do (Fletschner and Kenney, 2011). Fostering access to cheaper financial services for female farmers, as well as creating financial packages that take into account female asset limitations and risk aversion can improve rural female farm production and food security during times of high food prices and price volatility.

The Gender Gap in Participation and Representation

Lack of voice in the household and in rural organizations, and weak political representation, are also major limitations for women's ability to build resilience to future food price spikes. Although income generating employment and improved access to productive resources has been shown to increase women's participation in the financial decisions of the household (Chant, 1996), this transition may pose some challenges for the men of the household, as they reconcile the changing roles and responsibilities (Chant, 2000).

[6] This paper refers to credit and financial services through formal accredited institutions. It does not speak directly to the dangers of black market credit services, which often offer damagingly high interest rates and result in severe debt.

[7] Similarly, Carter and Maluccio observed this in South Africa household panel data in response to economic shocks (2003).

[8] During the price spike of 2007/08, buying rice by the cup was up to 32 percent more expensive than by the bag in Monrovia (Compton et al., 2011).

Farmer's organizations and collective bargaining groups are becoming more prevalent in the discussion of empowering smallholder farmers in market participation. While there have been key successes in this respect (Herbel et al., 2012), there are also important challenges to enhance female participation and recognition. Female participation goes beyond membership: flexible meeting times, awareness-raising about the importance of women's participation, and mechanisms to strengthen women's confidence to voice their opinions are also important (Holmes et al., 2011). Their participation in these organizations can prove essential in furthering gender-equity and rural development as they also increase access to technology and market information (Kumar and Quisumbing, 2010) and create linkages to political participation, which in times of high food prices can be essential for improving dialogue on policy responses.

For male and female small farmers, the time that elapses between production decisions and actual production increases the susceptibility to volatility for farmers with fewer resources (Prakash, 2010). Price signaling for farmers can be diluted, muted and latent depending on trade-oriented policies but they can also depend on the farmer's knowledge of the market. This is particularly true for rural women who face participation restraints and tend to get their market information from informal networks.[9] Therefore, in addition to increasing female farmers' voices, farmer's organizations can also increase access to informal education and knowledge sharing, serving as points of market information (Peterman et al., 2011).

An important final word in this section is that all gender gaps in access to economic and social assets are widened by **the gender gap in education**. For rural women to seize available economic assets and opportunities during times of crisis, they will need to have adequate skills and knowledge in order to do so.

2.2 GENDER-BASED SOCIAL NORMS AND INTRA-HOUSEHOLD POWER DYNAMICS DETERMINE MALE AND FEMALE COPING BEHAVIOR

Existing gender roles in society[10] and the intra-household power dynamics determine the coping behaviors men and women adopt in response to shocks, sometimes increasing their negative impacts in detriment to one gender or the other, and also in detriment to the younger or older member of the household. Further, intra-household *shock allocations* may be a function of individuals' relationships, and how their roles in

[9] Data from Paraguay comparing husbands' and wives' knowledge of financial markets found that rural women are 15 to 21 percent less likely than men to have basic information about the financial institutions in their communities (Fletschner and Kelley, 2011).Thus, the gender gap in access to information can be substantial.

[10] In many regions of the world, women and girls still bare the major responsibility of providing food and its preparation, in addition to performing the majority of households' reproductive labor.

health or human capital and productivity are viewed within the household (Hoddinot, 2006). The impacts of these coping strategies may curb future income generation sources, as in the selling of females' productive assets during famines in Africa (Corbett, 1988); pulling girls out of school in Brazil (HDN/PREM, 2008); or allocating more food to male household members in Indonesia, causing higher negative nutritional impacts on women and children (Block et al., 2004). While certain changes in behavior may be immediate and short-term, the inability to access food may also have long-term repercussions in health and education outcomes, or they may also reshape gender roles, such as when more women entered the work force due to the economic crisis in Mexico (Chant, 1994). This will be discussed further below.

Women more vulnerable to a reduction in food consumption due to their household responsibilities and nutritional needs

One of the most commonly recorded behavioral adaptations taken by households in response to high food prices is a change or reduction in household food consumption. Dietary changes as a response to shocks often include the following: eating less preferred foods; eating smaller or fewer meals; decreasing food variety, and; preferring more filling, and often cheaper, foods rich in macronutrients to foods richer in micronutrients. Women are of particular concern as, biologically and socially, they are more vulnerable to inadequate nutrition during food shortages.

Nutrition is of particular importance for prenatal and/or lactating women and their infants. Women have special nutritional needs during this time, and they are more prone to undernourishment (Block et al., 2004); the first 1,000 days between a woman's pregnancy and her child's 2nd birthday are the most essential for protecting lifelong development for babies. For this reason, changes in diet for women and children are of special concern as micronutrient deficiencies have been associated with heightened morbidity and mortality—particularly among pre-school children and pregnant women (Block et al., 2004).[11]

Biologically, if not lactating or pregnant, women can eat less due to lower nutritional requirements and higher body fat (Nuemayer and Plumper, 2007); however, many endomorphic studies have shown that food scarcity most directly impacts women's body mass more so than men's. One study by Hoddinot, which interviewed over 400 households in rural Zimbabwe between 1984 and 1999, showed that women's BMI fell by about 3 percent after a drought in 1994-95; however, there was no apparent correlation with the drought and men's BMI (2006). Meanwhile, women in wealthier households maintained higher BMIs showing how relative wealth determined some women's ability to absorb the shock (Hoddinott, 2006).

[11] For example, a pregnant woman deficient in iron puts her child in risk of long-term developmental problems (Kilbride et al., 1999).

In the context of male and female household responsibilities, meal-planning often falls to women, a role that often has negative implications for them during periods of food insecurity as food strains may lead to negative coping strategies in order to fulfill this responsibility. Slater and Mphales (2008) in their study in Lesotho of 25 focus group discussions and case study interviews with beneficiaries and non-beneficiaries of a cash transfer program found that:

> "During food shortages, the main responsibility for meeting household food needs usually falls to women. The first strategy employed by households in the face of food shortages is a reduction in consumption. Households reduce both the number of meals they consume and the size of the portions. Whilst men are willing to reduce their own consumption so that their children can have full meals, there was no evidence from the research that men reduce their consumption to enable their wives to eat, even when their wives are pregnant or lactating. In contrast, women often forego meals so that their children and husbands can eat."[12]

A recent qualitative study in Nicaragua also highlights women's prioritization of scarce income resources for child's food consumption while men continued to spend incomes in alcohol and cigarettes, even during times of high food prices. The result was often lower food consumption among women (Marselles-Culleres, 2011).

Besides health concerns, for women, sacrificing their own food intake translates into broadening the gap in education, in the labor market, and in economic-social empowerment in general.

Women's health and education more likely to be affected during food price shocks due to cultural perceptions and values

As behaviors shift in order to protect food consumption, household non-food related expenditures are de-prioritized. This can harm investments in health and education, which consequently damages welfare in both the short and the long term.

There are observations that the use of health services decreases both in times of high food prices (IDS, 2009; Compton et al., 2011), as well as economic crisis more generally (Chant, 1994; Sabarwal et al., 2010). Women and girls are likely to be the traditional caregivers in many rural households. The increased strain on their time and attention is aggravated when decreasing household nutrition weakens immune systems and increases the household's likelihood for illness, while simultaneously reducing expenditures in health services. In this context, the responsibility of household females increases, often times preventing girls from going to school or preventing adult women from engaging in more productive activities. In addition, by cutting health expenses

[12] Slater, Rachel and Matseliso Mphale, "Cash Transfers, Gender and Generational Relations: Evidence from a Pilot Project in Lesotho" Report for World Vision International.2008, pp. 8

and opting for self-diagnosis, families also expose the sick to worsening health conditions and erroneous treatment.

Shocks are also likely to impact the health of girls more so than boys. This is particularly evident in regions where boy preference is common such as in South Asia and some sub-Saharan African countries (Sabarwal et al., 2011). Reports on the food, fuel and financial crisis in 2007/08 from Bangladesh and Indonesia state that the elderly, young children, and women who are pregnant or lactating received less clinical medical attention in order to prioritize the breadwinning male (IDS, 2009).

Pulling children out of school is a common coping behavior in response to shocks, and was also reported during the 2007/08 food price spikes (HDN/PREM, 2008; Sabarwal et al., 2011; Compton et al., 2011). Several studies from Bangladesh record a higher proportion of girls dropping out of school than boys as a result of the 2007/08 food security crisis. For example, Raihan's surveys of 1,250 households in Bangladesh found that more than half, and over 80% of FHHs, had 'children drop out of school' due to the food price rises (2009). Similarly, because of food price pressures in Brazil, a study showed that in households where the heads had lost their job, girls were 50 percent more likely than boys to be pulled out of school to look for work (HDN/PREM, 2008). This will prevent the ability of youth, particularly of girls, to overcome poverty in the future through better paying jobs, forfeiting education investments for immediate contributions to the household.

How a household prioritizes education expenditures depends on the cultural view of female-male education (Sabarwal et al., 2011; Carter and Maluccio, 2003), the value of education in the labor market (Corbett, 1988), intra-household power dynamics (Gitter and Barham, 2008), but also on the availability of social protection programs that prevent this coping behavior (Soares et al., 2007).

Increase in women's time-burden due to more work at home and in the labor market

Due to already low or limited income, adjusting to food price increases may go beyond simple expenditure adjustments. Women therefore may seek additional income opportunities (Sabarwal et al., 2010; Holmes et al., 2009; Compton et al., 2011), and increase their hours spent working in addition to other domestic work (Hossain, 2011). For example, a study conducted by SEWA to monitor the impact of the global financial crisis in 2008 in Guajarat, India, revealed that 50 percent of the 100 randomly selected female farmers interviewed in member communities were seeking to work harder or take a loan to start a business (PWESCR, 2011). In Bangladesh and Ethiopia, Uraguchi's study found that 65 percent of the 373 women in the study worked 20 percent more time in order to increase their income and/or increase food production and consumption in response to higher food prices (2010).

Rising food prices can also have important implications for the distribution of care responsibilities and women's time. Women's care work and time becomes under more pressure when the need for cheaper food entails traveling further to find it and when it requires more time-consuming preparation (IDS, 2009; Quisumbing et al., 2008). In Ethiopia at the peak of the food price hikes, women reported spending additional time in search of cheaper food from distant areas, preparing food with different ingredients in unprocessed state, besides working for more income (Urgaguchi, 2010). In Lesotho, Slater and Mphale saw females increase their time begging and asking neighbors for maize (2008). During 2007-09, women in Nairobi moved from domestic work and childcare to spending their entire day working outside the home (IDS, 2009). This strain on women's time has negative consequences for childcare and family wellbeing if public services such as crèches or additional help at home for care labor are not available. Time burden and extra work relate to higher stress levels, anxiety and sleep problems, which were also reported during the 2007/08 food security crisis (IDS, 2009). Finally, time burden can also affect nutritional outcomes (Bouis and Hunt 1999)

Women's Assets Sold First due to Weak Bargaining Power and to their More Tangible Nature

The selling of assets is another coping mechanism that can create income for a household in response to high food prices. Asset selling is likely to occur in households spending 50-80 percent of their income on food, and is considered one of the most potentially damaging behaviors (Compton et al., 2010). However, due to lower bargaining power in the house, married women's tangible assets, such as jewelry or small livestock, are more vulnerable to stripping than their husbands' "lumpier" assets such as land, cattle, or transport (Quisumbing et al. 2008; Holmes, et al., 2009; Quisumbing et al., 2011).[13]

The consequences for selling assets range from the immediate day-to-day but also can have long-term impacts. The loss of assets not only reduces women's welfare but also decreases their bargaining power and financial independence, and increases their work burden. The extent to which a woman can protect against the disposal of her assets without consent, the extent to which they can be recovered or restored, and how the money from the sale is spent are all issues that need greater attention.

[13] Of the 2,272 households sampled in Bangladesh by Quisumbing et al. (2011), 45 percent made asset adjustments in response to the food price shock of 2007/08. Though many had relatively good insurance on land against food price increases, there were still negative impacts on jointly held assets or wives' assets. Women's assets decreased in 2007 from 40 percent to 33 percent of the household's total assets; their share of total livestock declined from 16 percent in 2007 to 9 percent in 2010.

3. HOW CAN POLICIES BETTER RESPOND TO THE DIFFERENTIATED IMPACTS OF HIGH AND VOLATILE PRICES ON RURAL WOMEN?

In section 2 we have made the case that in order for countries to respond more effectively to higher and more volatile food prices, it will be necessary to both break-down the systemic barriers affecting women's resilience *before crisis* and provide specific support *during crisis* to minimize women's coping behaviors that lead to detrimental impacts. Thus, for more effective response to high and volatile food prices, policy makers must not only enact policies and programs that will protect the most vulnerable, but also, re-evaluate the policies in place towards gender-equality goals.

Gender equality has a strong relationship not only with increasing the capacity of rural households to adopt viable coping mechanisms to crises, but also with overall effectiveness in poverty reduction interventions (Uraguchi, 2010). At the same time, by helping women access higher incomes and physical and human capital, policies and programs also help women become more self-confident and able to increase their bargaining power within their households and communities, necessary for fairer and less detrimental coping strategies. If policies and programs adopt a both a "household approach" – meaning engaging all household members in the process- as well as a "gender-transformative approach"- meaning seeking to transform gender relations to promote equity, these become easier to implement in the short run, and their effects persist in the long run. In this section we give examples on how policy response to higher and more volatile food prices could become gender-responsive.

3.1 Build Women's Resilience before Shocks by Closing the Gap in Rural Development

By reducing gender inequalities in rural development, polices can proactively address the barriers that keep rural women from building the necessary resources to buffer against fluctuating food prices. Furthermore, reducing the gender gap in rural development will not only improve individual and household food security, but also increase food supply in rural markets and lower prices by increasing competition.

Policy makers must remember that high food prices do not automatically translate into greater profits for rural producers, in particular women who face the strongest barriers to accessing and acquiring assets to respond to changes in market demand. In fact, a price increase linked to a rise in cost of production inputs may make it difficult to maintain food production; therefore, addressing the risk aversion and inability to access credit and other financial resources is fundamental for helping female farmers invest and improve their agricultural contributions. Other key assets, such as secure land tenure, ensuring both primary and extension education, and market access to inputs and value-added processes are also important for improving female farmer livelihoods.

Access to Credit and Savings Designed for Rural Women

Setting up local and regional food banks or food reserves are schemes that have been discussed by governments and international agencies for enhancing food security at lower regional levels (Agarwal, 2011). Warehouse receipt systems and collective farming are also ways that women can work together to overcome their lack of credit, to benefit from higher prices, and to access food reserves that can be used if needed. Collective action can also cultivate support networks and social capital for women, which can help curb the anxiety and mental strains that come from the stress of crises, and offer small-scale savings and credit services.

Good practices come from India during the 2007/08 food crisis, as described by Nair and Shah (2007):

1) To combat price volatility, the Self-employed Women's Association (SEWA) in Gujarat, India, started a "warehouse receipt" initiative, encouraging farmers to store their produce of castor seeds in a collective warehouse, against which they receive loans.
2) Women's federations in India bought food grains in bulk and selling them to poor members at a nominal price or on short-term credit, thus contributing to income smoothing, and setting up community grain funds. Under this scheme, the farmer gets as much as 70 percent of the value of the produce stored, enough to satisfy her working capital needs for the coming season and thus ensuring that they are able to take advantage of the subsequent price rise and make a greater profit on their stored produce.

Other examples of warehouse receipt systems come from Niger, Madagascar, Ghana, Uganda and Tanzania (FAO 2012).

In addition, special credit and savings schemes can also be specifically designed for rural women, offering lower rates and easy access through local banks, rural cooperatives or women's groups.

Box 1.1: Warehouse receipts and Community-shared storage facilities

Warehouse receipt systems and shared storage facilities are two effective ways to help farmers access secure storage for their crops. In times of price instability and volatility, being able to buy and store staple grains in bulk can be a proactive step which not only helps households buffer against sudden price spikes, but also can keep bulk grains safe for long periods of time until they can be sold during high price times. They also minimize the amount of time that women spend looking for food, reducing their time burden during crises. Collective organization can also increase women's voices by improving their bargaining power over price (Lacroix and Varangis, 1996), and empowering female farmers' socially and economically.

Support Producer Organizations that Increase Women's Education on Food Markets and Food Prices, and Provide more Access to Markets and Market Information

Supporting agricultural cooperatives that effectively incorporate female participation, particularly those that offer credit and financial resources, support in buying productive assets such as land, connect female farmers with markets, but also provide information on food markets and prices using cheap technologies available (i.e. text messages in mobile phones) could help female farmers better cope with price shocks and even benefit from higher food prices. These organizations link small, otherwise isolated, female producers at the grassroots level and connect them not only to service providers but also to policy-makers (Herbel et al., 2012). The latter is particularly useful for supporting women's voices in political negotiations during high food prices.

Creating Quality and Decent Rural Employment For Women[14]

Creating jobs within the agricultural sector and in other sectors is fundamental for enabling rural women to earn higher incomes and cope during high food prices. Active Labor Market Intervention Programs (ALMPs) for women can be designed to enhance their integration in the rural labor market, as these include the identification of the targeted population's constraints in accessing or finding employment, specific training schemes, and ad hoc design that adjusts to their needs. As new jobs are created, affordable social services need to be expanded as well so that the household care traditionally provided by women (i.e. child and elderly care, food preparation) is not harmed.

Investing in Rural Infrastructure and Public Services that Increase Female Farmer's Market Connectivity and Reduce Women's Time Burden

Investing in infrastructure is essential for rural development and can relieve the increased stress on woman's time burden during high food prices. Basic infrastructure such as water pumps, better roads, transportation, and others improve agricultural production and link producers and consumers. They also reduce women's time in reproductive and domestic activities, such as gathering food and water, which in rural areas are not only time consuming but also can have high risks.

[14] Decent work has been defined by the ILO and endorsed by the international community as being productive work for women and men in conditions of freedom, equity, security and human dignity. Decent work involves opportunities for work that is productive and delivers a fair income; provides security in the workplace and social protection for workers and their families; offers better prospects for personal development and encourages social integration; gives people the freedom to express their concerns, to organize and to participate in decisions that affect their lives; and guarantees equal opportunities and equal treatment for all. The Decent Work Agenda is a balanced and integrated programmatic approach to pursuing the objectives of full and productive employment and decent work for all at the global, regional, national, sectoral and local levels. It comprises four pillars, namely: 1) employment creation and enterprise development; 2) social protection; 3) standards and rights at work; 4) governance and social dialogue (*ILO FAO Toolkit for Mainstreaming Employment and Decent Work)*

Investments in public services such as affordable health clinics, daytime crèches, homes for the elderly, and other services have a direct impact on woman's domestic responsibilities. These services relieve the pressure on women's time, and allow women to engage in other activities that can better equip them to respond to high food prices, such as waged labor. They also minimize the support that the female head of the household requires domestically, therefore decreasing incentives to pull girls out of school and minimizing human capital deficits for future generations.

Finally, education services that adapt to women's time constraints, not only on literacy and numeracy but also on price markets, marketing and others, is essential for improving agricultural productivity and farmers' responses to price volatility.

3.2 Designing Safety-Nets to Help Women Avoid Negative Coping Strategies

In addition to supporting women to build their resiliency, policies must mitigate the coping behaviors that households take which are detrimental to women's welfare. Safety nets work both ways: building not only women's assets before price shocks, but also, providing alternatives to negative coping strategies through income and consumption smoothing when most needed. Thus, it is important that countries establish safety-net systems during non-crisis times as an established program can be more easily scaled up and expanded to reach target households at right times.

Certain safety net programs and their design can be more beneficial to women than others during food price shocks. In this section, we summarize some schemes and design qualities that address women's constraints and unbalances in intra-household dynamics and rural development.

School Feeding Programs Can Keep Girls in School

In general, school feeding programs play a great role in attendance retention as well as in improving nutrition that links to better school performance by students (Rogers and Coates, 2002). In addition, they may also play a vital role to fostering gender equality in education in the longer term. For example, these schemes have shown to increase the value of keeping girls in school in times of high food prices, where women's time is constrained and household expenditures decrease, as well as to ease the strain on household expenses associated with education. Evidence on their effectiveness in meeting these objectives come from the *Food for School Feeding Program* in the Philippines (Demeke, 2009) and *WFP's school feeding program* in the south of Madagascar (IRIN, 2008).

Transfer Programs Can Reduce Negative Coping Behavior and Reduce Gender Inequalities

A considerable amount of evidence shows how cash transfer programs (CTs) that target vulnerable families with small children and/or pregnant women have the potential to reduce gender inequalities. The Social Cash Transfer Scheme in Malawi reduced women and children's risk-coping activities, such as engaging in transactional sex (Schubert and Huijbregts, 2006) or in hazardous child labour, which worsen social inequalities. Also in Brazil, the Bolsa Familia program increased the labor market participation of female beneficiaries by 13.7 percent above non-beneficiaries females in a period of two years (CEDEPLAR/UFMG, 2007; Veras et al. 2007). Conditional Cash Transfer programs (CCTs) on child school attendance have also shown to increase girls' attendance in school in Nicaragua (Gitter and Barham, 2008). Finally, CTs that put money directly in the hands of women, have also increased women's status within the household, such as Brazil's Bolsa Familia (Suarez et al. 2006), and promoted their self-esteem and economic empowerment, as with Mexico's Progresa/Oportunidades program (World Bank, 2000).

Public Work Programs Increase Women's Labor Market Participation and Incomes, and May Reduce their Time Burden

Public work programs (PWPs) provide an optimal mechanism for bringing additional welfare to rural women by providing employment opportunities, addressing shortages of rural infrastructure that decrease women and young girls' time burden, and promoting efforts to reduce gender inequalities in education and income.

PWPs have the potential to address gender inequalities in labor and promote women's capacities if the design explicitly factors in decent work considerations, women's care responsibilities and their need to participate on a flexible basis (Subbarao, 2003; Antonopoulos, 2009; Kabeer, 2008). Integrating family responsibilities with work[15] (Antonopoulos, 2009) has also shown to increase female participation. Finally, special training has shown to increase female employability when program stint ends (Holmes and Jones, 2009; Subbarao et al. 2010), as in Public Works Plus[16] models.

PWPs which develop infrastructure critical for women (e.g. wells, roads) can bring longer-term benefits by reducing women's time burden. Del Ninno et al. (2009) document that in the Yemeni PWP, the selection of any sub-project put highest priority to schemes that benefited children and women most, such water projects (which

[15] In South Africa, Antonopoulos argues for the Expanded Public Works Programme (EPWP) to incorporate social service delivery in health and education - traditional women's work - into its framing of "public works" (2009). This would both increase the visibility in the policy arena of the labor-intensive unpaid work many women are already doing, as well as subsidize basic and social services (Antonopoulos, 2009).

[16] "In some countries, public works programs have been used to accomplish other goals that go beyond the traditional role of PW programs. For example PW is used in some countries not only as a vehicle for short term employment and infrastructure development, but also as a vehicle to graduate participants out of poverty, either via encouragement of savings or via a training component." (Subbarao et al. 2010, pp. 3).

benefited women and children disproportionately). Finally, the same program made special emphasis in building schools for girls and women's training centers for income generating activities which help reduce gender inequalities in education and income.

Integrated Nutritional Assistance in Safety Net Schemes Prevent Women (and Children) from Decreasing Food Consumption During Crises

While food assistance can play a significant role in guiding households through food crisis, the need to better integrate them with nutritional assistance programs has recently been recognized by Latin American States and others as one of the priorities for coping with food crises (Aguirre, 2011; Skoufias et al. 2011). Not only must nutrition be incorporated into the selection of foods for distribution within crises, but it must also be accompanied by nutritional education to improve household decisions even in less severe times. Interventions can include the provision of targeted food supplements and micronutrients for those that are most in need, notably children and women of reproductive age. Other safety net programs such as conditional cash transfers (CCTs) and public works programs (PWP) can also include micro-nutrient supplements such as iron, calcium, and vitamin B1. This would also diminish women's (and other household members') negative coping strategies of eating less quantity of food or less nutritious foods.

Box 1.2: Food or Cash?

In times of high food prices, and depending on the country context and crisis situation, women may prefer food assistance rather than cash, as it eases women's responsibility for household nutrition, increases women's participation in aid programs (Subbarao, 2003), and increases their control over family food distribution (Quisumbing, et al., 2008; Sharma, 2006). For example, in Ethiopia women involved in public works programs (PWPs) largely preferred to receive food instead of cash payments because intra-household dynamics diminished their control over cash (Holmes and Jones, 2010). Nevertheless, project implementers who decide whether to give food or cash should be cautious to not increase gender inequalities or reinforce gender roles and expectations in a crisis setting by providing food to women and cash to men. Thus, active participation of beneficiaries is needed in order to provide the best solution.

Tailoring Safety Net Programs To Address Women's Needs

The inclusion of women in safety net programs is not enough. An adequate design is needed in order for women to participate and benefit effectively in both the short and long term. Some considerations in their design thus include:

- Cautioning against the time burden that conditional cash transfers might place on women, since they tend to condition against female responsibilities (i.e. children's health, schooling, etc.).
- Addressing mobility constraints by reducing the need to travel long distances to retrieve transfers or aid, and facilitating transportation when necessary.

- In the case of public work programs offering flexible hours, crèche facilities, toilet facilities for women at work sites, and options of wage payment modalities (e.g. piece wages) are mechanisms to ensure their participation in the scheme.
- Programs that provide transfers should also provide access to adequate financial services, either through savings groups or bank accounts that allow women to receive and store transfers independently. This is done to help women make independent decisions on the use of the transfers they receive.
- Public work programs can be gender-transformative, challenging gender roles by providing labor opportunities to women which are not typically performed by them (i.e. construction, managerial roles), and can include specific training and education opportunities that enhance women's employability in similar jobs when the scheme reaches its end.
- Promoting women's participation in the implementation of safety net schemes, for example, by undertaking supervisory roles, in the selection of beneficiaries and project location, monitoring, social auditing, among others, could enhance other women's participation in the scheme and ensure that gender equality in implementation is reached. This is an example of a gender-transformative approach.
- In public work programs, setting decent work standards (e.g. ensuring safe working conditions, child labour prevention, and considering effects of the PWP's wage rate on local wages), and equal pay between men and women performing similar tasks can raise the work standards of other employment opportunities beyond the scheme.

3.3 Education is a key aspect for success

The role of education requires special mention. As we have seen in section 4, there are several initiatives that can be undertaken to help rural women and their households cope with food price volatility; however, their success lies heavily in the capacities of the beneficiaries to seize these opportunities and carry on their benefits in the long run. Both formal training and "gender training" is important in this sense. Formal training for both men and women, and the young and the old, is necessary for them to broaden their understanding of prices and the market, use available technologies and adapt to other more innovative and productive agricultural practices. Gender training, on the other hand, promotes an environment of no-discrimination and challenges detrimental gender roles that limit rural women and other groups in accessing the resources they need to cope in times of crisis.

4. CONCLUSIONS AND WAY FORWARD

In this chapter, we have seen that rural women – and their families- were particularly vulnerable during the 2007/08 food security crisis. In order for policies to respond in a way that prevents growing gender disparities in future food price shocks, these must build on women's resilience and help them prevent negative coping strategies. A twin track approach is proposed in order to do so: closing the gender gap in rural development and establishing effective safety net schemes that address women's specific constraints and needs.

Closing the gender gap in rural development means improving women's access to assets and other productive resources; creating decent rural employment for women and promoting their access to the labor market; and promoting women's participation and representation in farmers' organizations and agricultural institutions. Investments in infrastructure and public services in rural areas can also play a key role in connecting female farmers to markets and in transmitting food, input and energy price information.

On the other hand, safety net schemes are also important to provide immediate support and avoid negative coping strategies when established before price shocks, they not only increase a woman's household resources before the shock, and therefore her resilience, but also can be scaled-up and expanded according to the severity of the shock in order to provide timely support.

Furthermore, governments need to tailor programs with gender-equity objectives. In responding to food crises, policies and programs must acknowledge the important role that women play, both in maintaining household food security and in reproductive labor by incorporating flexibility in hours and responsibilities. Additionally, understanding intra-household dynamics will improve a program's success. The need of taking a gender-transformative approach means the implementation of policies and programs that strengthen women's household bargaining position as well as create incentives to maintain female health and education during consumption shortfalls with the help of the household members as a whole. An understanding of intra-household dynamics, in addition to market dynamics, also play an important role in determining whether policy makers aid families through cash or food, and through whom distribution occurs.

The current context of price volatility and severely increasing food prices makes government and policy response critical and urgent. Given the experience of past food price spikes, such as in 2007/08, policy makers must be better informed on the gender inequalities and cultural aspects that could jeopardize policy response to another food security crisis. It is not enough to make women the sole recipients or ensure their

participation, but policy must address both the social and economic inequalities that worsen in times of food price shocks. For this reason, future areas of research lie in context analysis that addresses gender dynamics and issues in rural development, and program evaluations of country responses to high and volatile food prices with an emphasis on the impacts on rural women.

Women are important agents of food security. A woman's ability to face food price shocks independently and productively will ensure her household's welfare and the future of rural development.

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