

# IMPACT OF HIGH FOOD PRICES ON NUTRITION

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## 1. ABSTRACT

While decreased dietary quality and quantity are the most immediate effect of high food prices on nutrition, impact extends far further. At household level, child growth and cognitive development may be compromised, macro and micronutrient deficiencies for all family members are likely to occur, and the risk of infant and maternal mortality goes up. Second-order impacts at household level include decreased utilization of health services, decreased school attendance, and increased workload for women. At national level, prevalence of stunting, underweight and other forms of malnutrition may increase, slowing human development and economic growth. At global level, these outcomes threaten achievement of multiple MDGs.

In addition to more detail on each of these outcomes, this paper provides information on how the nutrition statuses of specific demographics are affected by food price spikes. Three of the most frequently cited ways to reduce vulnerability in these populations – social safety nets, community based nutrition programmes, and nutrition-enhancing agriculture - are discussed. The paper also includes lessons learned regarding the imperative of maintaining public services during a food price spike and the political economy of nutrition policy reform.

The paper concludes with three policy proposals for increasing nutrition resilience against food price and other shocks: using existing survey tools to capture new information on food and nutrition security; using government strengths in decentralization, social mobilization and other areas to build operational capacity; and promoting the concept of “win-wins” to advocate for increased nutrition sensitivity in agriculture.

## 2. INTRODUCTION

Large, sudden and unexpected increases in food prices force people to adjust quickly. Consumer purchasing power goes down and households are pushed closer to or below poverty lines. This is especially true for urban families, rural households that are net consumers, and for households headed by women.

What does this mean for nutrition? At household and individual level, it means that both dietary quality and total energy intake may be reduced, compromising child growth and cognitive development, increasing risk of micronutrient deficiencies for all family members, and increasing risk of infant and maternal mortality. It means that at national level, prevalence of stunting, underweight and other forms of malnutrition may increase, slowing human development and economic growth. At global level, these outcomes threaten achievement of multiple MDGs.

This paper takes a closer look at these issues. It begins with more information on how high food prices impact nutrition at household, national and global levels and then describes how they are affecting nutrition outcomes in high-risk population groups. Three of the most frequently cited ways to reduce vulnerability in these populations are discussed. The last sections present lessons learned and policy proposals for getting and keeping effective nutrition policies on national development agendas, even in situations where food prices remain high and volatile.

### 3. IMPACT OF HIGH FOOD PRICES ON NUTRITION

Unless otherwise stated, the sections below assume households are net food buyers experiencing some price transmission from international or regional to domestic markets. The focus is primarily on sub-Saharan Africa and South Asia. Although the latter is self-sufficient in rice, some countries remain net food importers and regardless, the share of food in South Asian household expenditures is high at approximately 40 percent (World Bank, 2012). Prevalence estimates of undernourishment and chronic malnutrition are also highest in these two regions<sup>3</sup> (FAO 2012; UNICEF, WHO, World Bank, 2012).

#### 3.1) Impact on households and individuals

Shifting from a varied diet rich in micronutrients to one that is derived predominantly from high-carbohydrate staples is a common response to declines in income. This is because most staple foods (e.g. rice, maize, cassava) are much cheaper than fruits, vegetables and animal source foods. However, when staples are eaten on their own or with very small amounts of other foods, the result is a poor quality, monotonous diet that is likely to be nutritionally inadequate in protein, fats and micronutrients (Thompson 2009). For example, cassava root, one of the cheapest and hence most popular staple foods in much of sub-Saharan Africa, is particularly low in protein (1.2 g protein/100 raw edible grams as compared to 6.1 g for rice) (Stadlmayr et al., 2012). Nevertheless demand for cassava increased among many cash-strapped households in sub-Saharan Africa in 2008 (FAO, 2009).

When households replace meat, fruits, vegetables and other micronutrient-rich foods with high carbohydrate staples, their energy intake may remain above the minimum requirement, but both macro and micronutrient intake is compromised, thus increasing risk of stunting, micronutrient deficiencies and associated poor health outcomes. For instance, Vitamin A deficiency (VAD) and iron deficiency anaemia (IDA) - two of the most common nutritional deficiencies in the world – are caused by diets low in animal source foods, fat, and certain fruits and vegetables. VAD is associated with impaired immunological function, increased risk of maternal and infant death, and impaired eyesight. IDA affects physical productivity in adults and cognitive and physical development in children. It is particularly detrimental during pregnancy when women's iron requirements are high. Both deficiencies are associated with increased healthcare costs and compromised human capital (Horton and Ross, 2003; FAO, 2004; World Bank, 2006).

If prices rise further and downgrading dietary quality is not enough, total caloric intake will be reduced. In addition to further increasing malnutrition, reducing total energy intake also increases risk of health shocks. This is because inadequate dietary intake weakens the immune system and increases susceptibility to disease. Infectious disease, in turn, increases nutrient requirements and weakens the immune system. This vicious circle can begin when dietary intake is inadequate in terms of quality but still acceptable in regards to total caloric intake. The situation worsens once energy requirements are no longer met.

Intrahousehold food reallocation may help reduce all these effects for some family members but at the expense of others. It occurs most commonly when women become “shock absorbers of

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<sup>3</sup> Prevalence of undernourishment (2010-2012): 17.6 percent in South Asia & 26.8 percent in sub-Saharan Africa (FAO 2012)

Prevalence of stunting (2011): 37 percent in South Asia & 40 percent in sub-Saharan Africa (UNICEF, WHO, World Bank, 2012)

household food insecurity” (Quisumbing, Meinzen-Dick, and Bassett, 2008) by reducing their own intake in order to increase food availability for other household members. This can have immediate and long-term repercussions in terms of maternal and (consequently) intergenerational malnutrition.

In addition to compromising dietary quality and quantity, high food prices also have second-order impacts on households and individuals which can impact nutrition indirectly (Thompson 2009). Two of the most detrimental are decreased school attendance and decreased spending on healthcare. As described above, infection increases malnutrition and vice-versa. As such, decreased spending on healthcare implies increased risk of poor nutrition outcomes. The relationship between education and nutrition is more distal but no less important, schools provide an important delivery platform for learning about good nutrition as well as for direct nutrition interventions. Both are especially crucial for girls, who, as described below, have an essential future role to play in assuring household nutrition security.

Another second-order impact is increased workforce participation of women. In non-crisis settings, mothers have been shown to manage childcare efficiently, resulting in a net-positive effect (Levin et al. 1999, Ruel et al. 1999, Ruel et al. 2002). In contrast, when women seek work under distressed conditions such as those caused by a food price spike, child welfare – including nutrition - is more likely to suffer (World Bank, 2012).

### **3.2) Impact at country level**

Economic analyses of the costs of malnutrition have examined specific micronutrient deficiencies as well as chronic undernutrition or stunting. For example, iron deficiency in adults has been estimated to decrease national labour productivity by 5 to 17 percent (Horton, 1999), and up to 10% in lost productivity and earnings has been attributed to stunting (FAO, 2004). The latter is especially pertinent in terms of future development goals. Over one-third of children under five in LDCs are currently stunted (UNICEF, WHO, World Bank, 2012). Decelerated economic growth and compromised human capital are negative externalities associated with each cohort of children who are malnourished.

In addition to this long-term compromise in human capital, the country level impacts of high food prices can result in short and medium-term diversion of state resources from precisely the areas where nutrition needs them most, namely agriculture, health and education. This is because a common response to rising food prices is creation or expansion of food subsidy programmes. Although these programmes are meant to safeguard nutrition, in reality they may discourage dietary diversity (key to ensuring dietary quality) by encouraging increased consumption of high carbohydrate, low micronutrient staples, even after a crisis has passed. They also distort prices and may create disincentives to producers to diversify production (see Section 5.3 for more on the role played by agriculture in improving nutrition). Food subsidy programmes also divert funds from investments in roads and other infrastructure. These are essential to ensuring access to food as well as to social protection services, health and education (World Bank, 2012).

### **3.3) Impact at global level**

The cumulative effects of food price spikes have almost certainly slowed (and to some extent reversed) achievement of MDGs related to nutrition. The most obvious are halving the proportion of people who are undernourished (target 1.C), reducing the under-five mortality rate

by two-thirds (target 4.A), and reducing the maternal mortality ratio by three-quarters (target 5.A).

However, MDGS which do not have a proximal nutrition link have also almost surely been affected to some degree by poor nutrition outcomes exacerbated by food price spikes. These include achieving universal primary education; promoting gender equality and empowering women; reducing the spread of HIV, malaria and other infectious diseases; ensuring environmental sustainability; and fostering global partnerships for development. Box 1 provides more detail on the distal links between nutrition and achievement of these goals as well as details on MDGs which are more obviously nutrition-related.

## **4. IMPACT OF HIGH FOOD PRICES ON NUTRITION: VULNERABLE POPULATIONS**

Women, the socially excluded and economically marginalized rural and urban poor are among those most vulnerable to malnutrition at all times, and hence are at particular risk during and after food price spikes.

### **4.1) Women**

Cultural norms make food price spikes especially threatening to the nutrition status of women. As mentioned above, practices such as intrahousehold food allocation as well as socially sanctioned tendencies to prioritize men's or children's needs mean that women in vulnerable households are at particularly high risk of becoming malnourished. If they do, and if they are pregnant, they are also at increased risk of complications during delivery, as well as affecting foetal growth and outcomes later in life.

Although female-headed households may face less pressure in regards to food allocation, their overall vulnerability to economic shocks is increased, as these families face significant time constraints resulting from the combined burden of care giving and income generation, limited legal benefits and protection, and limited access to credit and other financial resources (World Bank, 2011).

Despite these disadvantages, much of the response to a rise in food prices is reflected in additional informal work done by women. This is because food price spikes require greater investments in time and energy to maintain comparative levels of care for children, sick people, and the elderly. This type of work is done mainly by women the world over. Examples include collecting wild foods and fuel, and traveling to beg or borrow money and to purchase foods in small amounts at bargain prices (World Bank, 2012).

From a nutrition perspective, it is absolutely critical to lighten the load borne by women during food price spikes (and other shocks). In addition to directly reducing risks to their own health, targeting women creates spillover effects for entire households and in some cases, communities. This is because the resources and income flows that women control have repeatedly been shown to have disproportionately positive impacts on health and nutrition (World Bank, 2007).

### Box 1 : Impact of malnutrition on the MDGs

- As food prices increase, poor households' purchasing power decreases, the composition of their diet worsens, and total energy consumption may also decrease. These changes directly affect all targets of MDG 1 on poverty, full and productive employment, and hunger.
- Malnutrition affects cognitive function in childhood. In addition, a malnourished child is tired and physically weak. As such, poor nutrition may affect primary school completion rates (target 2.A).
- An increase in food prices can affect household food allocation practices by creating disproportionate reductions in women and girls' intake. Although this does not have an explicit link to target 3.A (eliminate gender disparity in education) it is highly relevant to MDG 3 itself: Promote gender quality and empower women.
- Malnutrition is linked directly to more than one-third of children's deaths each year (MDG 4).
- Pregnant women face heightened maternal mortality (due to decreased dietary quality as well as decreased total energy consumption) during a food price crisis (MDG 5).
- Given the vicious circle between infection and malnutrition, poor nutrition outcomes have implications for targets 6.A and 6.C, which aim to reduce incidence and prevalence of HIV, malaria, and other infectious disease. In addition, the diversion of state funds from public health services which may occur during a food price crisis can reduce access to treatment.
- Malnutrition weakens the immune system and compounds the effect of diarrhoea and waterborne diseases (MDG 7).
- Higher food prices have weakened intergovernmental coordination in food markets (MDG 8).

## 4.2) Rural poor

Landless laborers and smallholders facing severe income constraints comprise the rural poor in most developing countries. These households are typically net food buyers.

The degree to which these population groups are susceptible to food price spikes varies. In countries where the majority of staples are grown locally, price spikes on the international market may not greatly affect the rural poor, as transmission from international and regional markets is minimal. However, in countries like Bangladesh, which are net food importers with open trade policies, price transmission can be significant. Between 2007 and 2008, wholesale rice prices increased by almost 30 percent in Bangladesh (Dawe, 2008)<sup>4</sup>.

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<sup>4</sup> In addition to price transmission, this was due to severe weather and Indian export restrictions.

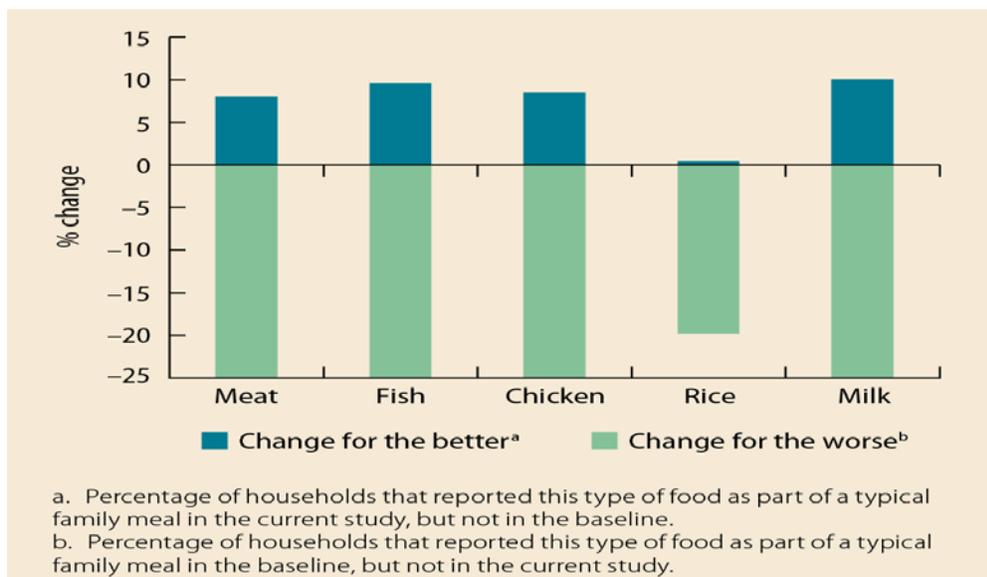
In this and similar situations, poor rural families will employ some or all of the coping mechanisms cited above, typically to the detriment of their nutritional status. For example, an assessment of livelihood and nutrition security in one northern Bangladeshi village between 2007 and 2008 showed that by 2008 the poorest quartile could no longer afford a diet that was sufficient in terms of total energy, let alone quality. Stunting in these families was twice as high as stunting in the richest quartile in 2008. Second-order coping mechanisms for affected families included taking children out of school, sending children to work, and selling productive assets. Some households took out loans to replace lost income and were then forced to prioritize repayment over dietary adequacy. Although the rice producing richest quartile benefited from the price spike, wages for agricultural labor did not rise sufficiently to offset the higher prices among net consumer poorer quartiles (Save the Children, 2009).

Strengthening links between agriculture and nutrition is one of several ways to help the rural poor avoid and mitigate the negative nutrition impact of food price spikes. This concept is discussed in Section 5.3.

### 4.3) Urban poor

Low-income people living in cities are usually net consumers of food and, like the rural poor; they can be hit hard by food price spikes. As with other demographics, poor urbanites' most immediate reaction to an increase in the price of food will be a decrease in dietary quality, followed by a decrease in quantity if necessary. In countries whose cities have large and growing low-income populations, this may mean that the absolute number and prevalence of malnourished people will increase substantially.

**Figure 1: Changes in household diet pattern from 2010 to 2011, Dar Es Salaam**



Source: World Bank (2012)

For example, a survey assessing the impact of 2011's substantial commodity price increases in Dar es Salaam (one of Africa's largest and fastest growing cities) revealed both primary coping mechanisms at work. The vast majority of households surveyed reported a change "for the worse" in consumption of high nutrient animal source foods as well as staples (see Figure 1). Moreover, the number of households who reported being able to afford three meals a day dropped by 20 percent between December 2010 and December 2011 (Heltberg, Hossain and Reva, 2012, cited in World Bank, 2012).

Some of malnutrition's ripple effects may take on special significance in cities. Perhaps most notably, susceptibility to infectious disease caused by malnutrition may be especially elevated in urban areas where very close quarters, poor or non-existent sanitation, and low food safety may all conspire to increase risk of infection.

Although the focus of this chapter is primarily on undernutrition, it is important to note that food price spikes can also increase overnutrition. This may be especially true in cities where street foods are cheap and prolific. When food prices increase, cash-strapped urbanites may compensate by eating more of these products. Most street foods are high in starch and fat, but low in protein and micronutrients. As such, they contribute to the multiple burden of malnutrition currently present in many low and middle-income countries undergoing nutrition transition<sup>5</sup>. In these countries, obesity, stunting, and/or micronutrient malnutrition may occur within the same household and even within the same individual (Doak, 2005). For example, in the Arab Republic of Egypt, Peru and Mexico, about half of women diagnosed with anemia are also overweight or obese (World Bank, 2012).

Citizens of double and multiple burden countries may also be at increased risk of chronic disease. This is because there may be a link between undernutrition in infancy and type2 diabetes (Hales and Barker, 2001). Some of the most compelling evidence for this association comes from India where children who were thin in infancy and experienced rapid growth in adolescence had impaired glucose tolerance or full blown diabetes by their thirties (Barghava et al. 2005, and Yajnik, 2009, both cited in Alderman, 2011). The implications of this "thrifty phenotype" (Hales and Barker, 1992) for health care costs are enormous, especially in a country like India, which has extremely high rates of both undernutrition and diabetes. While high food prices are only part of the story, they may well exacerbate the situation when poor urban populations that are chronically undernourished are forced by a food price shock to increase consumption of cheap, high calorie street foods.

## 5. MITIGATING THE IMPACT OF HIGH FOOD PRICES ON NUTRITION

Safety nets, community based nutrition programmes, and nutrition-enhancing agriculture are three areas which provide a range of ways to mitigate the impact of high food prices on vulnerable populations. All three target women, nutrition-enhancing agriculture targets rural populations, and social safety nets, in theory, should target both urban and rural families. However it is important to note that the transient nature of many urban populations, combined

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<sup>5</sup> Nutritional transition is characterized by a movement from diets and behaviours associated with undernutrition (over reliance on carbohydrate rich monotonous starchy staples, heavy workload) to more sedentary behaviours and diets less constrained by incomes. The latter is characterized by increased diversity and can include more fruit and vegetables, animal products, processed foods, oil seeds, and/or vegetable oils, typically leading to a reduction in nutritional deficiencies but also to increases in overnutrition.

with the fact that many safety net programmes are more geared to the rural poor (since the proportion of people living below the poverty line is often higher in rural areas) decreases the efficacy of this type of social protection (World Bank, 2012). More effort is needed to design and implement safety nets which can catch and protect the urban poor.

### 5.1) Safety nets

While social safety nets are rightly touted as an important way to protect vulnerable groups from food price spikes and other shocks, it is important to note that risk management activities for producers serve an important function in reducing price volatility and are often adversely affected by ad-hoc safety net programmes designed to support consumers. For example, in addition to creating disincentives to dietary diversity (see 3.2, above), untargeted staple food subsidies can also divert government investment in warehouse receipt systems, commodity exchanges and other price risk management tools. In contrast, high quality, well-targeted safety nets grounded in broader social protection programmes deliver timely, multi-year, guaranteed and predictable transfers to the poor without undermining investment in risk management tools (World Bank, 2012, Antonaci et al. 2012). Box 2 highlights some of the most important aspects of such a system.

#### Box 2: Building blocks for effective social protection programmes

- Identification: Mechanisms to identify eligible beneficiaries and promote empowerment should be established.
- Targeting and eligibility: Simplified approaches drawing on available information, bearing in mind costs, should be used.
- Enrollment: Either a census-style survey or an on-demand system may be used effectively. Each can be appropriate at different stages of programme development, or they can be used simultaneously.
- Timely payments: New technologies can help, but simple, traditional systems can also work.
- Monitoring and evaluation: Basic monitoring systems which include actual nutrition indicators or proxies (e.g. household food security assessment) should be established, both as a foundation for immediate impact evaluation and to establish the database required for future evaluation.

World Bank, 2012

From a nutrition perspective, safety nets work best when they protect consumption by preventing decreases in dietary quality and quantity (Thompson 2009). A second, but no less important, consideration is protection of income and livelihoods. The former is essential to protecting nutrition status in the short-term, while the latter is necessary for increasing longer-term resilience and decreasing risk aversion, both of which are essential to preventing many of the second-order coping mechanisms which can impact nutrition indirectly. Decreased risk

aversion is also essential to encouraging smallholders to invest in crop diversification and other aspects of nutrition-enhancing agriculture (see 5.3).

Safety net options include cash transfers (conditional and non-conditional), food and nutrient transfers, school feeding programmes, and cash-for-work programmes which include a nutrition component (World Bank, 2012):

- Cash transfers have been repeatedly shown to improve child growth and increase both total household food security and dietary diversity (Fernald et al., 2008; Attanasio et al., 2005; Miller et al., 2011; and Skoufias et al., 2011). However if inflation is high, food transfers may be a better choice than cash. Traditionally, food aid has been criticized as being carbohydrate-based and thus providing insufficient macro and micro-nutrients. In addition, food aid programmes have historically been criticized for operating outside the parameters of target populations' food systems, primarily because of the impact created by a sudden influx of imported food on local markets. That is changing, however, as local procurement of food aid gains traction (Lentz et al., forthcoming).
- School-feeding programmes in developing countries can include a meal at school and take-home rations. Both have been shown to improve nutritional status, not only for schoolchildren but also for their younger siblings (World Bank, 2012). However, costs may prove prohibitive, for example in some low-income African countries school-feeding programmes have been shown to be on par with basic education costs (Bundy et al., 2009). Moreover, implementation may be difficult in remote areas, reducing cost-efficacy. That said, in terms of design, school feeding programmes are easy to scale up during a crisis. On balance, it is unclear whether the costs of implementation outweigh the benefits (World Bank, 2012).
- Cash-for-work programmes are naturally self targeting and as such offer a good delivery platform for a nutrition component. This can include nutrition education, regular home visits by community health and nutrition workers and distribution of food supplements during the lean season (Silva, 2010). Ideally, the nutrition component leverages the effects of the additional income provided by the programme to improve intake (World Bank, 2012). Including a nutrition component in cash-for-work schemes can also increase the chances that female employment has a net positive effect on child welfare (see Section 3.1).

## 5.2) Community based nutrition

Community based nutrition programmes offer a common platform for delivery of a wide variety of nutrition and health services in both rural and urban contexts. They are often grounded in growth and monitoring initiatives but their scope can extend far beyond these activities to include antenatal care, deworming, nutrition education and behavior change communication, prevention and treatment of micronutrient deficiencies (especially anaemia), prevention and treatment of infectious disease, and family planning services.

Each of these services is related to a suite of interventions considered key to reducing malnutrition (Black et al., 2008). These interventions have been endorsed by the Scaling Up Nutrition Movement (see Box 3) and can be grouped into three key areas: behaviour change interventions; micronutrient and deworming interventions; and therapeutic feeding interventions.

### Box 3: The Scaling Up Nutrition Movement

In 2010 more than 100 organizations including governments, civil society, the private sector, research institutions, and the United Nations system committed to work together to fight hunger and undernutrition through the Scaling Up Nutrition Movement.

The SUN mission is to ensure high quality and tailored support for efforts to scale up nutrition within participating countries – in line with both national and global targets. Within the Movement, different stakeholders strive to harmonize existing strategies and programmes in ways that reflect best practices, increase investments in the most successful outcomes and ensure accountability to those they seek to serve as well as to each other.

Thirty-four countries have joined the movement to date.

Together with the primary health care system, community nutrition programmes offer an important delivery platform for most of these activities<sup>6</sup>.

Because so many of these key nutrition interventions depend on basic health funding, it is especially important to safeguard the latter during food price spikes, when, as mentioned above, state resources may be diverted to food subsidy programmes which aim to reduce negative nutrition impact but which can backfire by creating problems such as disincentives to dietary diversity.

### 5.3) Agriculture-nutrition links

While traditional food security models have historically fallen short in their efforts to reduce malnutrition, momentum is now building to better align agriculture and nutrition agendas to benefit from mutual synergies and to promote “nutrition-enhancing<sup>7</sup> agriculture”. The general consensus is to pay increased attention to vulnerable groups (e.g. smallholders and landless laborers) in agricultural development plans; to prioritize production of high nutrient crops and animal source foods when appropriate; to emphasize the importance of reducing water and animal-borne diseases; and to combine nutrition education with agricultural activities (Thompson and Amoroso, 2011, Herforth et al., 2012, SCN 2013).

In the context of high food prices, making agriculture more of a positive force for improving nutrition will help safeguard against most of the first and second-order impacts described above. For example, increased production of legumes, fruits, vegetables, meat, eggs, milk and other high nutrient foods has been shown to increase dietary diversity directly as well as through income effects (Thompson and Amoroso, 2011; Herforth et al., 2012) As such, households will be better insured against price shocks because they will be at less risk of downgrading their diets in terms of quality. If crop diversification has also had an income effect, families will have a financial cushion as well.

<sup>6</sup> One important exception is industrial fortification, which relies on the market for distribution.

<sup>7</sup> Nutrition enhancing” is increasingly used by FAO, while “nutrition sensitive”, “nutrition driven” and a number of other permutations appear elsewhere. “Nutrition enhancing” approaches are defined by FAO as those that set out to address the underlying determinants or basic causes of malnutrition.

Female farmers are essential to both food and nutrition security in many developing countries, especially in Africa, and strengthening the links between agriculture and nutrition requires sharpening the focus on women, who currently represent approximately 43 percent of the global labour force (World Bank, 2012) and perhaps more in many smallholder economies. From an agricultural perspective, productivity will increase if the potential of female farmers is fully realized. FAO estimates that equalizing access to productive resources between female and male farmers could increase agricultural output in developing countries by as much as 2.5 to 4 percent (FAO, 2010). From a nutrition perspective, empowering female farmers means empowering women in terms of purchasing power and budget control, with implications for improved household nutrition as well as, hopefully, better nutrition and health outcomes for women themselves.

Within the context of high food prices, targeting women farmers can improve the agricultural sector's resilience to shocks in terms of both productivity and nutrition enhancement. The former through increased yields, the latter through more household income flowing to nutrition and nutrition-related expenses.

## **6. LESSONS LEARNED**

Past experience with the impact of food price spikes on nutrition has led to a number of lessons learned. Two of the most important are discussed below. The first is the imperative of maintaining public services, even if this requires trade-offs in terms of food subsidies or other short-term responses. The second is that scaling up nutrition interventions requires high level political commitment and operational capacity.

### **6.1) Maintain public services in sectors important to nutrition**

One policy response to a food price crisis is diversion of state funds away from social services to provide funds for food subsidies. As discussed above, this rarely bodes well for nutrition in the long term, as health and education both play an important role in promoting and maintaining nutrition, and because food subsidies can actually create disincentives to dietary diversity.

Lessons learned in Indonesia, Peru, Senegal and Ecuador support the importance of maintaining public services. In Indonesia and Senegal, public health expenditures during food price spikes in 2008 and 2011 respectively were maintained through donor aid, with good results for nutrition. Neither stunting nor wasting increased for either country (Ferreira and Schady, 2009; World Bank, 2012), and indeed in Senegal stunting has reduced markedly over the past few decades (WHO, 2012). In contrast, a collapse of Peru's health services in the eighties led to declines in health service utilization and a sharp increase in infant mortality (Ferreira and Schady, 2009). In Ecuador, health-care cuts in the late nineties which occurred at the same time as El Niño are believed to have contributed to increased stunting and lower cognitive test scores (Hidrobo, 2011).

## 6.2) Build political commitment and capacity

Tackling malnutrition effectively requires sustained action across sectors, strong leadership, coalitions and high levels of both institutional and operational capacity. When these needs are met, countries are well-positioned to scale up nutrition interventions and meet the challenges of high food prices and other shocks. Unfortunately, many countries lack the commitment and capacity to achieve these goals. In these countries, nutrition is stuck in a “low priority cycle” (Natalicchio et al., 2009) characterized by low visibility of the problem, low demand for solutions, a fragmented technical paradigm which does not address nutrition’s complex etiology<sup>8</sup>, and a poorly-funded, weak institutional home with limited political clout or ability to work across sectors.

A suite of case studies conducted in Africa during 2008 identified factors enabling a number of countries to break out of the low priority cycle (see Box 4). Most were grounded in political economy<sup>9</sup> and required substantial social mobilization, advocacy, strategic communication and policy reform. The recognition that policy decisions are more often political than technical and the importance of fully taking political economy into account when seeking government collaboration in and commitment to nutrition is an important lesson learned. It is gaining momentum in international fora (FAO 2013a), and in application at country level (SUN, 2013)

## 7. POLICY PROPOSALS

Governments in developing countries are typically limited by budgetary and capacity constraints when responding to food price and other shocks. As such, the recommendations below focus less on altering the status-quo and more on leveraging existing country frameworks and systems to improve nutrition.

### 7.1) Improve information at country level

In many countries, routine collection of food and nutrition security data does not occur. Few national surveys collect food consumption data at household (let alone individual) level with the needed periodicity (World Bank, 2012, FAO 2013a). The same is true of child growth and micronutrient status. This lack of quality data presents a fundamental challenge to monitoring and evaluating the effects of food price hikes and other shocks on nutrition. Solving the problem requires administration of multipurpose, nationally representative household surveys that capture information on both market exposure and food and nutrition security in a timely fashion. Living Standards Measurement Surveys (LSMS) and other integrated household surveys have been cited as one option (FAO 2013a). These surveys are administered regularly in most countries and have potential to meet at least some of the demand for more frequent and routine collection of food and nutrition security data. Although they remain challenged in regards to capturing intra- and inter-annual variability in food and nutrition security, efforts to increase

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<sup>8</sup> E.g. the paradigm is food-security focused or health focused, but not both.

<sup>9</sup> Political economy can be defined as how the distribution of power and power dynamics in a given country affects decision-making for public policy and provision of public goods and services.

sensitivity are being made. These include incorporation of dietary diversity indicators into LSMS and integration of child growth measurements into permanent agricultural surveys (FAO 2013a).

## **7.2) Use growing national and international commitment to nutrition to build country capacity**

A growing number of governments have now demonstrated their commitment to nutrition in terms of National Nutrition Policies, costed results frameworks, and other criteria (SUN, 2013). Moreover, multilateral, bilateral and NGO donors are increasingly interested in building nutrition capacity (World Bank, 2012). Using this momentum to increase funding for well-targeted safety nets, community-based nutrition and nutrition enhancing interventions in agriculture is key to breaking the low priority cycle and mitigating the impact of high food prices and other shocks.

Efforts should focus on using existing country strengths – social mobilization, decentralization, strong network of NGOs, sectoral stewardship, etc. - to build operational capacity at all levels of government. In addition to routine collection of food and nutrition security data, this requires a comprehensive technical paradigm, a National Nutrition Policy that mainstreams nutrition in relevant sectors, a nationally recognized institutional “home” for nutrition with political clout, harmonized partnerships with donors that provide sustained support to country priorities, and reasonable government-based financing.

## **7.3) Identify and advocate for nutrition enhancing “win-wins” in agriculture**

Increasing nutrition enhancement in agriculture poses its own set of challenges. When nutrition security is under heightened threat, as during a food price crisis, countries must weigh the benefits of short-term relief (e.g. a rice subsidy) against longer-term investments in working across sectors. This can be a tall order, as evidence of the nutrition impact of agricultural interventions is scarce. To date, few agricultural projects or studies include nutrition indicators in their design<sup>10</sup>.

In addition to evidence of impact, advocates for nutrition enhancing initiatives must convince the sector in question of the cost-efficacy of their investment. As such, more innovation and advocacy is needed to identify pre-existing “win-wins” which provide nutrition enhancing incentives to stakeholders in agriculture with minimal trade-offs in terms of economic gain. At the most basic level, this requires making the case for nutrition as fundamental to development: A malnourished labor force results in low productivity; while improving nutrition outcomes increases productivity and economic growth. Other examples include:

- time as well as labor-saving technological change targeted to women farmers, which improves sector performance overall;
- crop diversification which spreads production risks and increases availability of high nutrient foods;
- supporting local value chains and making other production-related productivity improvements to lower the unit-costs of production (FAO 2013b).

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<sup>10</sup> Efforts to increase evidence of impact are underway; however the majority of work is being led by organizations in Europe and North America (Hawkes et al. 2012).

## 8. CONCLUSION

The impact of high food prices on nutrition begins with households and individuals. As purchasing power goes down, dietary quality and total energy intake are reduced, compromising child growth and cognitive development, increasing risk of micronutrient deficiencies for all family members, and increasing risk of infant and maternal mortality. Intrahousehold food allocation practices which reduce these effects for men and/or children almost always occur at the expense of women. Other coping mechanisms at household level include reduced utilization of health care services, decreased school enrolment, and increased participation by both women and children in the labor force.

Women, the rural poor, and the urban poor are among those most vulnerable to malnutrition at all times, and hence are at particular risk during and after food price spikes:

- Women bear the brunt of food price spikes in terms of intrahousehold reallocation of food and because during food price spikes, extra investments in time and energy are required to maintain comparative levels of care for children, sick people, and the elderly. In addition, female headed households tend to be lower income and more time-constrained than male ones and hence are more vulnerable to shocks.
- The rural poor are vulnerable because this group are generally net consumers. On balance, price transmission affects them negatively unless real wages rise sufficiently to offset the price increase.
- In addition to decreased purchasing power, the urban poor are vulnerable because some of malnutrition's ripple effects may take on special significance in cities. Perhaps most notably, susceptibility to infectious disease caused by malnutrition may be especially elevated in urban areas. In addition, high food prices may increase low-income urbanites' risk of overnutrition.

Social safety nets, community based nutrition programmes which deliver a suite of proven nutrition interventions, and nutrition-enhancing agricultural initiatives are three areas which provide a range of ways to mitigate the impact of high food prices on vulnerable populations.

- Safety net interventions include cash and food-based transfers, school feeding programmes, and cash-for-work schemes which include a nutrition component.
- Community based nutrition programmes offer a common platform for delivery of a wide variety of nutrition and health services in both rural and urban contexts. Because so many of these key nutrition interventions depend on basic health funding, it is especially important to safeguard the latter during food price spikes.
- Making agriculture work for nutrition requires increased emphasis on pro-poor growth, including increased attention paid to vulnerable groups within the rural economy. It also requires prioritizing production of high nutrient crops and animal source foods; emphasizing the importance of reducing water and animal-borne diseases; and combining nutrition education with agricultural activities.

Past experience with the impact of food price spikes on nutrition indicates two important lessons learned. The first is the imperative of maintaining public services, even if this requires trade-offs

in terms of food subsidies or other short-term responses. The second is that scaling up nutrition interventions requires high level political commitment and operational capacity. Securing both has been shown to require significant policy dialogue and reform on the part of both donors and governments. However without these key factors, nutrition stays stuck in a low priority cycle and vulnerable populations remain exposed to food price crises and other shocks. As such, both are important for governments to consider when developing policies in response to high food prices.

That said, governments in developing countries often face significant budgetary and capacity constraints when responding to food price shocks. Realistic proposals to increase nutrition resilience in the short-term should thus focus on existing structures where possible. Existing survey tools can be used to capture new information on food and nutrition security in a timely fashion, country strengths in decentralization, social mobilization and other areas should be exploited to build operational capacity, and advocates of nutrition enhancing agriculture can broadcast the concept of “win-wins” in producer support measures and others in advocating for increased attention to be given by agriculture and food systems to nutrition.

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