

BUILDING RESILIENCE

FOR

FOOD & NUTRITION SECURITY



Poor people and vulnerable communities are being hit by a range of shocks, including droughts, storms, earthquakes, tsunamis, war and civil conflict, illness, and in more recent years, food price spikes and financial shocks. This litany of events, as well as a growing awareness of the emerging consequences of climate change, suggests that more frequent and more intense shocks are on the way, with poor people and vulnerable communities, especially in developing countries, likely to be hit the hardest.

These shocks are compromising food and nutrition security. Nearly 850 million people are undernourished as a result of chronic poverty, periodic shocks, and the interplay between them. Earthquakes and tsunamis can wipe out the infrastructure that supports the food system, leading to food shortages and hunger. Food price shocks are especially hard on those living in poverty, who typically spend a large share of their income on food. The food price spikes in 2008 and 2011 led millions of poor people to buy less food or cheaper and often less nutritious foods. Diseases such as HIV and AIDS increase people's need for abundant nutritious food, but also make it more difficult for them to acquire that food. Agriculture-related pandemics, such as avian influenza, disrupt the food system in ways that affect both food producers and consumers. Wars, and the resulting displacement,

often lead to large-scale food emergencies. Moreover, even short-term disruptions in food and nutrition security, especially for young children, can have long-term or irreversible consequences. Food production, distribution, and marketing systems are not as resilient as they need to be in the face of these realities.

It is clear that we need to find ways to cope, and even thrive, in the face of shocks. Humanitarian activities in response to shocks have saved lives, but in many cases they have done little to help communities withstand subsequent shocks (Headey and Kennedy 2012). At the same time, longer-term development activities designed to ensure food and nutrition security, reduce poverty, and promote growth have done little to incorporate responses to inevitable shocks, and at times may even exacerbate vulnerabilities.

Conflicts like the one in Syria are major shocks that can lead to massive displacement of people and widespread hunger and malnutrition.



This is an opportune time to rethink how we can become more resilient to shocks. As the 2015 deadline for the Millennium Development Goals approaches, the development community is considering new Sustainable Development Goals to guide aid and investment priorities and actions. The concept of resilience seems to offer promise as a way not only to address the challenges raised by shocks, but also to link short-term humanitarian efforts with longer-term development activities and to ensure that long-term development programs consider short-term vulnerabilities. Various agencies and nongovernmental organizations (NGOs)—including the European Commission, the US Agency for International Develop-

ment, the World Bank, the World Food Programme, Mercy Corps, and Catholic Relief Services—are weighing how a resilience agenda would fit into their work. Countries such as Bangladesh, Ethiopia, and Indonesia are taking a close look at how they can improve resilience, and organizations designed to address resilience in the Horn of Africa and the Sahel region have emerged. Yet many questions remain about how to incorporate resilience as a development goal.

It should be noted that the resilience concept has not been universally embraced in the development field. Some argue that resilience should be coupled with other concepts such as sustainability and vulnerability, so that

people do not simply “bounce back” after a shock to the same state of poverty they were in before. Others say that a focus on resilience may overlook the causes of vulnerability and shocks, which may include, among other things, political and macroeconomic factors. Resilience may help people recover from a shock but have larger negative ecological, political, and social side effects.

Thus there is much to consider when looking at a potential resilience agenda. Among other things, it is important to think more about what resilience means and how this concept may best be applied to the development agenda and to efforts to improve food and nutrition security.

WHAT DOES RESILIENCE MEAN?

The concept of resilience began in the field of ecology, but it has since been adopted and adapted by various fields, including development, as a way to think about how to cope with shocks. Definitions of resilience are many and evolving, and there is no consensus on exactly what resilience means in the context of food and nutrition security.

Individuals, households, communities, and countries may all be subject to shocks and stressors. In response to these shocks, they may collapse, make a partial recovery, bounce back to their original state, or become even better-off than they were before. What does resilience mean in relation to these scenarios? Many definitions focus on achieving stability—that is, recovery to the original state. But this definition seems inadequate for a household or community whose usual state is one of grinding poverty (Barrett and Constanas 2013).

We propose the following definition of resilience within the context of food and nutrition security: *Building resilience means helping people, communities, countries, and global institutions prevent, anticipate, prepare for, cope with, and recover from shocks and not only bounce back to where they were before the shocks occurred, but become even better-off.* This definition provides not only an approach to dealing with shocks and a clear link between humanitarian and development efforts, but also an emphasis on the ultimate goal of advancing human well-being.

WHAT SHOCKS ARE ON THE HORIZON?

Shocks are inevitable. Conflicts within and between states are ongoing and, unfortunately, likely to continue. In the refugee crises stemming from those conflicts, food and nutrition

insecurity are rife. Floods, droughts, earthquakes, hurricanes, and other natural disasters will continue to strike and will threaten the food and nutrition security of poor and vulnerable people. Climate change will bring more frequent episodes of extreme weather. Globally, the number of Category 4 and 5 hurricanes, the strongest types, doubled between the 1970s and the 2000s (Webster et al. 2005), and ocean temperature trends suggest that this situation is likely to continue. In many areas, decreased precipitation and increased evaporation are projected to lead to the onset of severe droughts during the coming decades (Dai 2011). Climate models project that wheat and maize yields will decline significantly by 2050 (Deryng et al. 2011) and that global cereal prices will rise (Nelson et al. 2010). Recent events reveal the world's vulnerability to market shocks, extreme food price volatility, financial crises, and swings in capital flows.

Health shocks such as pandemics also pose a threat to individuals and populations. At the household level, health shocks—such as the illness or death of an income-earning adult—are major factors that push people into poverty. The effects of health and nutrition shocks can cross generations, underlining the urgency of preventing these shocks. Plant and animal diseases may jeopardize food supplies. In addition, the world faces some slower-onset crises, such as the rise in noncommunicable diseases like heart disease and diabetes. And some shocks may overlap, complicating our response.

WHAT HAS WORKED?

Evidence provides insight into the kinds of approaches that can help build resilience—that is, capacities to absorb shocks, adapt to them, and

even, in some cases, transform in response to them (Béné et al. 2012).

Given the large number of poor people employed in and dependent on agriculture, one important step is to create a more resilient food and agriculture system. For instance, it is crucial to expand farming practices that can be productive even in situations of stress, such as drought. Stronger agricultural markets can help farmers both get the inputs they need when they need them and sell their products for profit. Better water and soil man-

It is clear that we need to find ways to cope, and even thrive, in the face of shocks.

agement practices, improved seeds, and greater biodiversity can help make agricultural systems and farmers more resilient to weather extremes and climate change. Well-functioning value chains, market information systems, careful management of food reserves, trade policies, and price stabilization tools can help prevent and dampen market shocks. Building a stronger food and agriculture system will require constructing and maintaining a wide range of infrastructure, including roads, storage facilities, and markets, and drawing on the latest technologies including improved seeds, efficient irrigation systems, and mobile phones.

In some cases, adapting agricultural systems to shocks is not enough, and the way forward is through transformation. Pastoralists in the Horn of Africa, for example, are vulnerable to regular episodes of drought, and they have traditionally coped by moving their herds. Now, though, changes in landownership are making migration difficult. In cases like this, resilience may mean adopting entirely different types of livelihoods.

More broadly, it is important to

strengthen the capacities of various kinds and levels of institutions. Strong local, community, and large-scale institutions are needed to help prepare for, cope with, and recover from shocks. Indeed, the presence of a diversity of institutions can itself contribute to resilience, especially if these institutions complement one another in their scope and functions. It is also essential to invest in institutions and mecha-

One instrument consists of safety net programs, which can include food transfers, supplementary feeding, food-for-work programs, food price subsidies, and cash transfers conditional on household participation in certain social services. These programs can help people absorb shocks by providing resources that help smooth consumption (Frankenberger et al. 2013). The best form of transfer—for

example, cash, food, or vouchers—in each situation depends on the context (Hoddinott et al. 2013). Ethiopia's Productive Safety Net Program, for example, seeks

to better target benefits to the most vulnerable people and to make food and cash transfers more predictable. It also includes a public works program focused on building community assets (such as small-scale irrigation systems and feeder roads), and it has been shown to improve people's food security.

Another instrument involves strategies designed to help households build up their stock of productive assets, such as livestock or savings. During shocks, households can sell or use these assets to maintain their consumption of food and other essential goods. Research has shown, though, that this strategy works only if households have a minimum level of assets and access to markets. Households with too few assets may be forced to sell off what they have during shocks and find themselves in a worse position. In Kenya, the Arid and Marginal Lands Recovery Consortium invested in strengthening livestock markets, which remained active during the 2011 drought and served as a way for pastoralists to profitably sell their animals to help maintain household consumption levels.

Insurance programs and access to credit are perhaps the main ways that people and institutions in the industrial world cope with shocks, but insurance and credit are still largely unavailable to poor people and farmers. In many developing countries agriculture is a high-risk activity, but crop insurance programs are few. Even when insurance is available, it may not be well designed for poor and vulnerable people. Farmers may be reluctant to pay for this unfamiliar product, so education and extension are important. Nonetheless, some innovations in crop insurance for poor farmers in drought-prone regions show promise. When insurance payouts are indexed to the weather experienced in a particular area and go to all farmers in that area, and not just a particular farmer, administrative costs are reduced and payouts are speedier. If farmers adopt insurance and consequently believe they face less risk of income loss in the case of, for example, drought, they may be likelier to invest in other products with potential to raise their yields, such as improved seeds. Higher yields and incomes can make them more resilient to future shocks.

The key to using these strategies effectively is to find the instrument that is appropriate to the particular shock, the context in which that shock occurs, and the timeline over which it occurs. Some shocks, of course, require multiple interventions on several fronts.

Fundamentally, in addition to adopting these strategies and instruments, we need to improve human capacity for resilience at the individual and household level. Food and nutrition security, for example, makes people more resilient by improving their health, their physical and cognitive abilities, and even their earning capacity (Hoddinott et al. 2008). In turn, greater resilience to shocks helps strengthen people's food and nutrition security by reducing episodes of

Strong local, community, and large-scale institutions are needed to help prepare for, cope with, and recover from shocks.

nisms that can monitor environmental and anthropogenic risks and provide early warning before shocks actually strike. In Bangladesh, for example, the development agency Helen Keller International established a program to monitor people's well-being and food security every two months—often enough to capture the impacts of even short-term shocks. When unprecedented flooding struck the country in 1998, these data helped shape efforts to assist affected people.

Beyond formal institutions, communities are often home to informal institutions, such as social networks, that have traditionally played a role in preventing and coping with shocks. These local social networks tend to be best at responding to shocks that affect one or a few households rather than an entire community. It is important to ensure that new interventions build on these existing structures instead of seeking to replace them. In some cases where social capital is lacking, it could be worthwhile to help develop it in the interest of enhancing resilience.

In addition, we have experience with several kinds of instruments for helping households deal with shocks.

hunger and undernutrition. Nutrition interventions and nutrition education can help ensure that infants and young children across whole populations avoid irreversible levels of undernutrition. Mexico's Oportunidades cash transfer program, for example, has been shown to increase the nutrition and growth of children. In addition, during the food price spike of 2008, this program increased the number of beneficiaries as well as the size of cash transfers, alleviating some of the hardship imposed by the high food prices.

WHOSE RESILIENCE?

Traditionally, responses to shocks by the development community have involved humanitarian assistance to rural people such as those experiencing drought in the Horn of Africa. The prospect of more and different shocks, as well as a wider concept of resilience, raises the need to focus on other groups as well. Not only poor rural people, but also excluded and mar-

ginalized groups, the very young and the elderly, and urban and periurban residents all face the risk of particular types of shocks.

Women's resilience may also require special attention. There is evidence, for example, that the food price crisis of 2008 hit female-headed households especially hard in Ethiopia, causing them to cut back on meals served and to consume less-preferred foods. This finding and others point to the need for approaches that take into account the specific risks faced by women (Kumar and Quisumbing 2011).

We have more to learn about how the humanitarian community, the development community, and governments at all levels should prepare for and respond to shocks affecting these various groups. Are different types of shocks more prevalent in particular regions? Are there trade-offs to using approaches targeted to particular groups versus more general interventions, such as universal safety nets? How do causes and consequen-

es of shocks affect different groups? How should interventions differ among groups? To effectively improve people's resilience, we need to clearly understand the nature of shocks in various regions, recognize entry points for action for various groups, and use resources wisely.

WHO'S RESPONSIBLE?

Although the resilience agenda in food and nutrition security is relatively new, governments, aid donors, and NGOs are already involved in programs to provide safety nets and build up people's assets. Yet the traditional providers of humanitarian relief and development assistance typically operate completely independently of one another. Humanitarian relief in response to shocks often does little to reduce people's vulnerability and exposure to future shocks, while the development community often fails to take into account the likelihood of shocks. In Ethiopia, the Pastoralist Livelihoods



Well-functioning livestock markets, like this one in Kenya, can help pastoralists profitably sell their animals to help maintain household consumption when shocks strike.



6

Safety net programs that focus on improving child nutrition and health can make these children more resilient by improving their health, their physical and cognitive abilities, and even their earning capacity in adulthood.

Initiative switches resources between humanitarian relief and development as needed, but this coordinated approach is rare. Governments, aid donors, and NGOs need to collaborate more to ensure that their humanitarian and development activities operate in tandem to enhance resilience for food and nutrition security.

Research also has a role to play in

pointing the way toward more resilient institutions, communities, and households. To help create a more resilient agricultural system, the CGIAR and many national agricultural research systems are working to enhance yields, support healthy ecosystems, and ensure that new agricultural technologies will be effective in the context of a changing climate, as well as produce

nutritious and healthy foods.

Beyond these traditional actors, new actors, such as private companies and foundations, are now involved in promoting development and addressing food and nutrition insecurity. Their development activities can enhance resilience, but they may need to adopt a resilience “lens” to be more effective. The private sector provides some insurance products in developing countries, but there are other avenues for private involvement in enhancing resilience as well. Well-functioning markets, for example, contribute to resilience by helping actors diversify their economic activities, capture more value from production, and specialize where they have a comparative advantage. It can be difficult for poor people to enter value chains, though, because they lack either money for an initial investment in productive resources or the knowledge of how to engage in market activities successfully. In light of this, it is worth asking what role the private sector should play in promoting resilience by developing strong value chains within well-functioning markets.

WHAT KNOWLEDGE GAPS MUST WE FILL?

There is still much to learn about how individuals, households, communities, countries, and institutions—both formal and informal—become and remain resilient to shocks. Because the resilience agenda in food and nutrition security is relatively new, little is known about how existing interventions affect the resilience of participants. Why are some communities more resilient than others? What kinds of interventions are needed to move households from vulnerable to resilient? How can economic growth strategies help to pull people out of poverty “traps”? How can people’s food and nutrition security

be assured in the face of conflict and migration?

We need to know more about how to break down the silos between humanitarian and development actors. Does this require wholesale institutional change or merely adjustments to methods of communication and coordination?

Filling our knowledge gaps will require us to develop a culture of learning about resilience and approaches to it by conducting new research and by looking at what is already working. Local areas and communities often have existing ways of dealing with shocks, and these may provide insights that can be scaled up. Some developing countries have achieved improved resilience for their poor and vulnerable people, and their experiences offer an opportunity for South-South learning.

HOW SHOULD WE MOVE FORWARD?

Resilience building must be a key component in the post-2015 agenda if the goal is to end hunger and poverty sustainably. As a systems way of thinking about development, the resilience framework can be key to tackling issues that run across the entire agriculture, food, nutrition, and environmental system. It has the potential to improve livelihoods and support economic growth and transformation while mitigating future shocks.

How can key actors—poor and vulnerable people, farmers, policymakers, NGOs, the private sector, academia, donors, and the media—work together to build resilience for food and nutrition security and ensure that poor people improve their well-being?

To answer this question, we need to refine our understanding of resilience, break down the silos that keep people from coordinating their efforts, and look carefully at the evidence on what has and has not worked.

We need to know more about how to break down the silos between humanitarian and development actors.

Looking ahead to a future of continuing and even increasing shocks, we face an urgent need to predict shocks, prepare for them, and devise strategies for ensuring resilient agricultural and livelihood systems, institutions, and policies—at the community, national, and global levels—so that we can achieve food and nutrition security for all.

SOURCES CITED

- Barrett, C. B., and M. A. Constanas. 2013. "Toward a Theory of Resilience for International Development Applications." Unpublished, Cornell University, Ithaca, NY.
- Béné, C., R. G. Wood, A. Newsham, and M. Davies. 2012. "Resilience: New Utopia or New Tyranny? Reflection about the Potentials and Limits of the Concept of Resilience in Relation to Vulnerability Reduction Programmes." IDS Working Paper 405. Brighton, UK: Institute of Development Studies.
- Dai, A. 2011. "Drought under Global Warming: A Review." *Wiley Interdisciplinary Reviews: Climate Change* 2 (1): 46–65.
- Deryng, D., W. J. Sacks, C. C. Barford, and N. Ramankutty. 2011. "Simulating the Effects of Climate and Agricultural Management Practices on Global Crop Yield." *Global Biogeochemical Cycles* 25 (2).
- Frankenberger, T., K. Swallow, M. Mueller, T. Spangler, J. Downen, and S. Alexander. 2013. *Feed the Future Learning Agenda Literature Review: Improving Resilience of Vulnerable Populations*. Rockville, MD: Westat.
- Headey, D., and A. Kennedy. 2012. *Enhancing Resilience in the Horn of Africa: Synthesis of an Evidence-Based Workshop*. Washington, DC: US Agency for International Development and International Food Policy Research Institute.
- Hoddinott, J., J. A. Maluccio, J. R. Behrman, R. Flores, and R. Martorell. 2008. "Effect of a Nutrition Intervention during Early Childhood on Economic Productivity in Guatemalan Adults." *The Lancet* 371 (9610): 411–416.
- Hoddinott, J., D. Gilligan, M. Hidrobo, A. Margolies, S. Roy, S. Sandström, B. Schwab, and J. Upton. 2013. "Enhancing WFP's Capacity and Experience to Design, Implement, Monitor, and Evaluate Vouchers and Cash Transfer Programmes: Study Summary." Unpublished, International Food Policy Research Institute, Washington, DC.
- Kumar, N., and A. Quisumbing. 2011. *Gendered Impacts of the 2007–08 Food Price Crisis: Evidence Using Panel Data from Rural Ethiopia*. IFPRI Discussion Paper 1093. Washington, DC: International Food Policy Research Institute.
- Nelson, G. C., M. W. Rosegrant, A. Palazzo, I. Gray, C. Ingersoll, R. Robertson, S. Tokgoz, T. Zhu, T. B. Sulser, C. Ringler, S. Msangi, and L. You. 2010. *Food Security, Farming, and Climate Change to 2050: Scenarios, Results, Policy Options*. Washington, DC: International Food Policy Research Institute.
- Webster, P. J., G. J. Holland, J. A. Curry, and H.-R. Chang. 2005. "Changes in Tropical Cyclone Number, Duration, and Intensity in a Warming Environment." *Science* 309 (5742): 1844–1846.

IFPRI 2020 INTERNATIONAL CONFERENCE | MAY 15–17, 2014 | ADDIS ABABA, ETHIOPIA

The issues raised in this brochure will be explored at the international conference “Building Resilience for Food and Nutrition Security,” organized by IFPRI and its 2020 Vision Initiative. This global policy consultation is designed to inform, influence, and catalyze action by policymakers, nongovernmental organizations, the private sector, educators, researchers, and communities themselves to incorporate resilience into the post-2015 agenda and improve policies, investments, and institutions to strengthen resilience so that food and nutrition security can be achieved for all. Experts and practitioners from the resilience and vulnerability communities, as well as food and nutrition security, agriculture, humanitarian, and related development sectors will come together to assess emerging shocks that threaten food and nutrition security, discuss approaches and tools for building resilience, identify knowledge and action gaps, and set priorities for action on this critical issue.

For more information on the conference and its associated activities and products, including papers and briefs, lead-up events, videos, posters, a collaborative bibliography, and much more, go to

www.2020resilience.ifpri.info | #2020resilience

IFPRI and its 2020 Vision Initiative appreciate the generous support of and active engagement with the consortium of partners for the 2020 conference.



In partnership with the African Union Commission, IFPRI and its 2020 Vision Initiative are proud to contribute to the 2014 Year of Agriculture and Food Security in Africa.



INTERNATIONAL
FOOD POLICY
RESEARCH
INSTITUTE



2033 K Street, NW, Washington, DC 20006-1002 USA | T. +1.202.862.5600 | F. +1.202.467.4439 | ifpri@cgiar.org | www.ifpri.org

This brochure was written by Heidi Fritschel, Rajul Pandya-Lorch, and Sivan Yosef. It has not been peer reviewed and any opinions stated herein are those of the authors and are not necessarily endorsed by or representative of the International Food Policy Research Institute or its partners.

PHOTO CREDITS: Page 2 © Panos/M. Nissen; Page 5 © Panos/A. McConnell; Page 6 © Panos/J. Matthews.

Copyright © 2014 International Food Policy Research Institute. All rights reserved. For permission to republish, contact ifpri-copyright@cgiar.org.