

On Vulnerability, Asset Poverty and Subsidiarity

Comments to the Ford/Rockefeller Foundations Seminar Series session
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Variability, vulnerability and food security

Rains come and go, end-year bonuses vary from year to year, and stock prices rise and fall. For most of us, such variability is not a bad thing in and of itself and on occasion may be a source of great opportunity. Variability in an underlying variable – perhaps rainfall or the price of a staple food grain – becomes a problem, however, when it threatens people with irreversible injury. Such threats, which I term “vulnerability,” are related to but distinct from variability.

Of particular concern in today’s discussion is a specific type of vulnerability: food insecurity. Food insecurity is the risk of irreversible physical or mental impairment due to insufficient intake of macronutrients (calories and proteins) or micronutrients (essential vitamins and minerals). Somewhere between 2 and 3 billion people today – roughly half the world’s population, maybe more – face significant risk of macronutrient or micronutrient insufficiency. The food insecure proportion of the total world population has fallen rapidly, especially in the past thirty years. But the absolute number of food insecure individuals does not seem to have changed appreciably in several centuries. This highlights both the challenge and the promise of progress in combating food insecurity in the century ahead. As Alex McCalla lucidly describes in his presentation, achieving food security for all in the 21st century is a massive and complex, but necessary and feasible endeavor.

Assets and production technologies

Assets, broadly defined, form the foundation of food security. Someone with cash can purchase food, even if their crop fails. Someone with land and appropriate production technologies can grow their own food, even when markets are disrupted. Someone with a strong supporting network of family and friends or access to government or private charitable support can obtain food even when they’re penniless and

landless. Stocks of financial, natural, manmade, and social capital empower individuals to manage risk so as to prevent vulnerability. Vulnerability goes hand in hand with asset poverty.

But asset ownership is only a necessary condition for food security. We can’t eat currency or soil or the goodwill of neighbors or governments. There must also exist institutions and technologies that enable conversion of assets into a sustainable stream of the nutrients necessary to maintain a healthful, joyful life. Production technologies – improved processes and inputs – provide the means for individuals to convert productive natural and manmade assets into goods and services of value. A key element of the food security challenge in the coming century revolves around how to double world food output without significantly increasing the amount of land in production and without creating environmentally unsustainable levels of pollution. The pressing need for a “doubly green revolution” is indisputable.

The technologies of greatest value to today’s food insecure are those that reduce their vulnerability to natural production shocks such as disease and drought. Where markets are weak, food consumption becomes heavily dependent on local production, and therefore on the local climate, ecology and epidemiology. Rudimentary production technologies predominate in much of the low-income world. In 1994-96, less than twenty percent of all cropland in the low and middle income countries was irrigated. In sub-Saharan Africa, the proportion was only four percent. Meanwhile, fertilizer use in sub-Saharan Africa was only 9 kilograms/hectare in 1995, as compared to 83 kilograms/hectare in the developing world as a whole. In a place like Madagascar, 55 percent of cultivated land is planted in rice, yet yields and dietary variety are so low that the rice farming population itself is a net importer of rice! Renewed investment in research on and development of appropriate agricultural technologies – especially technologies that promote

drought and pest-resistance – and increased on-farm investment are central to increasing productivity and reducing food insecurity in low-income agriculture, where most of the world’s vulnerable live and work.

Institutions, assistance, and subsidiarity

The need to double global food output in the coming half century poses an immense challenge to the agricultural sciences. The enormity of the task ahead also underscores the necessity of respecting comparative advantage and distancing ourselves from antiquated notions of individual, community, or national self-sufficiency. Achieving food security for all is as much a challenge to the institutions of food distribution as it is to the technology of food production. Although calories available in the global food economy exceed per capita requirements by 15-20 percent, a like proportion of the world’s population suffers chronic undernutrition and one-third of children are stunted as a result of insufficient protein and energy intake. Resources wasted through inefficient distribution channels effectively increase the already-great demands placed upon the agricultural sciences.

The rapidly growing literature on how individuals cope with adverse shocks reveals clear patterns of behavior associated with three distinct layers of distributional institutions within economies. First, people rely on independent preventive measures or *ex post* adjustments: activity diversification, insurance or forward contracts, drawing down savings, borrowing, or adjusting their consumption and work patterns. For those with assets to sell, food, financial, labor, and other markets provide the basic institutional mechanisms necessary to prevent adverse shocks from leading to irreversible injury. Assets and market access together can prevent climate and market variability from turning to physical vulnerability.

Second, when independent, market-based adjustments fail, as they do too often among the asset poor, people then typically turn to informal networks of friends, family, and neighbors for loans and transfers. Such networks rest on foundations of altruism, self-interested reciprocity, and norms of social duty. When the fabric of civil society unravels, social networks become less reliable and less widespread sources of support to the vulnerable. Then the vulnerable turn to the third layer of the safety net: formal assistance programs run by governments and private charities. The problem of widespread food insecurity is thus the product of extensive asset poverty in places where markets, civil society, and governments are all weak.

Foreign assistance programs have long focused heavily on the third layer of the distribution hierarchy: governments and charities. Yet the record of food aid and relief programs in stabilizing food availability and extending food access to the vulnerable is spotty at best. For example, recent research finds PL480 food aid flows from the United States are either procyclical with or unrelated to variation in nonconcessional food availability in recipient economies, meaning they fail to stabilize food availability. Similarly, recent empirical studies indicate that community- and household-level patterns of food aid distribution bear little or no relationship to objective measures of communities’ or households’ *ex ante* vulnerability. The record of development projects to enhance food security through innovations such as national crop insurance or regional dual purpose (meat and milk) livestock breeding programs is not much better. In many cases, perhaps especially in contemporary sub-Saharan Africa, aid programs themselves become an independent source of risk and vulnerability. The failure of foreign assistance programs to reduce the size of the world’s food insecure population has at least two basic explanations.

First, there has been excessive pursuit of “magic bullet” remedies. Even among seemingly homogeneous populations, the source and severity of risk vary considerably. It may be feasible and sensible to try to dampen variability in a few special conditions (e.g., human and animal disease). But, in general, it is very difficult to effectively target one or two specific sources of variability that cause widespread vulnerability. When shielding people from all relevant sources of variability is impractical, the most effective approach is to improve the vulnerable’s risk management capacity by endowing them with greater assets (education, land, enhanced productive technologies) and by investing in institutions and technologies that foster asset accumulation and access to market and social institutions. A portfolio of agricultural research and extension targeted toward increasing food availability in low-income communities, market-based land reform programs, and investment in the institutional and physical infrastructure of rural financial and product markets shows considerable promise.

Second, the principle of subsidiarity – that problems be addressed at the most local level possible – is routinely violated. While formal, macro-level institutions clearly have important roles to play, the behavioral logic of

individual coping behaviors signals that more flexible and responsive distributional mechanisms based on markets and social networks hold comparative advantage, at least initially and in most settings. We need more community-based efforts to invigorate efficient markets and to support civil society through education, dispute resolution, and information systems.

Yet for a variety of socio-political reasons, development assistance remains focused at macro levels external to the communities in which the vulnerable reside. The voicelessness and powerlessness of the vulnerable becomes manifest not only in the fragile condition of their markets and social structures, but also in the exclusionary nature of much contemporary development assistance.

Breaking the vicious cycle

There is indisputably a role for the third-layer institutions of charities and governments. But more of their focus should be on endowing the vulnerable with productive assets (including education and health services) and appropriate technologies, and on rehabilitating and supporting market and social institutions that are better positioned to address context-specific distributional problems. The public goods nature of such interventions endows governments and charities with a comparative advantage in their provision. One should not expect communities or commercial interests to fully fund law enforcement, market information services, or road maintenance, or to find an affordable cure for malaria, an effective vaccine against trypanosomiasis, or new rice or sorghum production technologies that can sustainably triple yields in smallholder agriculture. These are the challenges to which charities and governments must attend.

In the past decade, however, an increasing proportion of private and public foreign assistance has been directed toward so-called “complex humanitarian emergencies” (CHEs): episodes of widespread violence that severely disrupt food production and distribution systems and tear at the fabric of civil society, leaving large populations vulnerable and in need of formal programmatic assistance. Relief efforts directed to CHEs increasingly absorb the lion’s share of donor resources in the establishment of refugee feeding programs, food aid distribution centers, and the like. This produces a vicious cycle in which vulnerability begets reactive relief efforts that too often further undermine already-fragile market and social institutions, leaving populations more vulnerable to the next adverse shock than they were to the first.

Meanwhile, funding dwindles for necessary development expenditures on agricultural and health research, on education and asset redistribution, and on buttressing market and social institutions. Extraordinary efforts must be made to break out of this vicious cycle of vulnerability and reactive aid if the widely proclaimed goal of halving the number .

Among the promising prospects are labor-based approaches to assistance, such as public works programs that employ the vulnerable in building, rehabilitating, or maintaining rural roads, irrigation canals, and schools. By demanding recipients to contribute their own labor – the one asset possessed by all able-bodied persons – such schemes prove reasonably effective in providing *de facto* insurance to vulnerable subpopulations and can contribute directly to the rehabilitation of social and market institutions that offer longer term support once individuals are able to climb (or be lifted) out of asset poverty.

Another promising opportunity is emerging with rapid advances in global climate forecasting. Improved climate forecasts offering reliable information to diminish temporal risk can not only facilitate *ex ante* mitigation of adverse climate shocks, they can also enable reinforcement of opportunities afforded by favorable climate anomalies. Since the precautionary behaviors of the poor often lead to allocative inefficiency and low rates of adoption of improved technologies, interseasonal climate forecasting of demonstrable reliability and accessibility may contribute to lasting improvement in food security and incomes. While interseasonal climate forecasts in the context of famine early warning systems presently serve only to cue relief operations and hand-outs, placed in a broader development framework, they could trigger endogenous improvements that ultimately reduce the need for relief. In addition, unlike most famine early warning systems data, climate forecast information based on global teleconnections originates outside the local system, it does not merely analyze and repackage locally-sourced data. ENSO-based climate forecasting delivered effectively and directly to affected communities may become an important form of foreign assistance for the 21st century.

Meeting the 1996 World Food Summit goal of halving chronic hunger in the world by 2015 will require more than 75,000 persons each day exiting the ranks of the food insecure. Is this feasible? Yes. Is the task simple? No. Widespread vulnerability is the complex product of asset poverty, rudimentary food production technologies, weak markets and social support

networks, and misdirected formal assistance programs.
Combating vulnerability manifest as food insecurity
will require sustained and substantial commitments on

each of these fronts in the coming decades.

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Background reading

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