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Abstract

This paper reviews the role of food aid in response to humanitarian emergencies. It outlines a set of basic principles for effective food aid interventions, and analyses a number of case studies in humanitarian response. The paper distinguishes between rapid onset and slow onset emergencies and between 'idiosyncratic' emergencies affecting individuals or households and 'covariate' emergencies affecting entire communities or countries. The lead-time afforded by slow-onset emergencies could be – but usually is not – used to mount early interventions aimed at averting full-scale disasters. Emergency response is too heavily dominated by food aid, especially aid sourced in donor countries, to the neglect of more effective and less costly interventions. What's more, idiosyncratic shocks are usually overlooked in humanitarian response. The paper draws a number of 'lessons learned' from recent experience with different types of humanitarian emergencies. It argues that emergency food aid is often a necessary part of humanitarian response to acute food insecurity, but it is rarely sufficient.

Key Words: food aid, food insecurity, humanitarian response, emergency response.

JEL: F35, O19, Q17, Q18.

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I. Introduction

Many observers today note that in spite of the Millennium Development Goal to halve hunger by 2015, FAO estimates that the number of hungry people has risen from roughly 790 million in the early 1990s to 852 million in 2005. Observing that average annual global food aid volumes have fallen by nearly over the same period, the inference is often then made that there is a relation between declining food aid volumes and rising numbers of hungry people. Such inferences are at best only half correct, however.

They are incorrect in so far as food aid is best suited to addressing acute food insecurity rather than chronic food insecurity (Barrett 2006), and the vast majority of hunger is chronic. For example, WFP reports that only 8 percent of hunger-related deaths worldwide in 2004 were caused by humanitarian emergencies, while 92 percent were associated with chronic hunger and malnutrition. Addressing the root causes of chronic hunger and malnutrition – low agricultural and labor productivity that limit poor families’ purchasing power, poorly functioning markets that drive up the real cost of food for the poor, insufficient access to credit and insurance by the poor, social exclusion and various forms of discrimination, etc. – is essential if the world is to achieve the Millennium Development Goals. This requires much more than food aid.

The loose association of rising hunger and declining food aid volumes is partly correct, however, in so far as food aid is indispensable to the task of preventing episodes of acute food insecurity from turning into chronic food insecurity, in addressing emergencies that not only can kill but that can, far more frequently, cost people assets and livelihoods and thereby cast them into long-term destitution. At least since Amartya Sen’s (1981) pathbreaking work on famines, poverty has been widely recognized as a causal factor behind food insecurity and hunger. What is less widely appreciated is that hunger and food insecurity can likewise cause poverty. This occurs not just due to nutritional poverty traps (Dasgupta 1997), but because people faced with dramatic, if short-lived, shortfalls of income and food often, if only very reluctantly, compromise future well-being – through distress sale of assets, migration, bonded labor, etc. – in order to protect current health and nutrition in the face of severe adverse shocks. Because short-term shocks can have long-term consequences, safety nets to protect productive assets in times of crisis and to guard against acute food insecurity can play a crucial role in preventing a collapse into chronic poverty and food insecurity (Carter and Barrett 2006). This is a core insight behind FAO’s “twin track” strategy to combat hunger (FAO 2003).

Food security, as defined by World Food Summit signatories in both 1996 and 2002, “exists when all people, at all times, have physical and economic access to sufficient, safe and nutritious food to meet their dietary needs and food preferences for an active and healthy life” (FAO 1996). Three core concepts underpin this definition: (1) availability – i.e., food supply – (2) access – imprecisely, demand manifest through purchasing power – and (3) utilization, referring to how food accessed is used within the household through preparation, storage feeding and related practices commonly. As Webb et al. (2006) note, these concepts are inherently hierarchical, with availability necessary but not

sufficient to ensure access, which is in turn necessary but not sufficient for effective utilization.

A fourth concept, “stability”, sometimes enters into definitions of food security, as either a supplementary or cross-cutting dimension of food security. The idea of stability reflects the importance of acute food insecurity associated with risk and shocks that cause “temporary sharp reductions in a population’s ability to produce or purchase food and other essentials [that] undermine long term development and cause loss of human capital from which it takes years to recover,” if indeed recovery is feasible (World Bank 1986). Sudden, dramatic collapse of availability or access (less commonly, utilization) can cause permanent problems, even death, for those suffering such shocks, even if the underlying disruption – of food prices, local agricultural production, employment, etc. – is short-lived. The permanent consequences of transitory phenomena arise due to the existence of poverty traps (Barrett 2005, Carter and Barrett 2006).

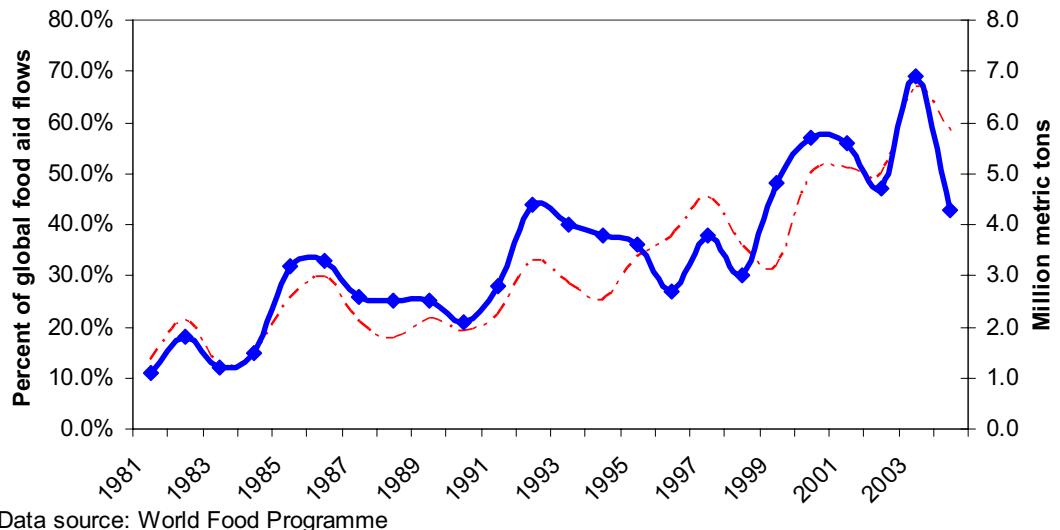
The possible long-term repercussions of inherently short-term disruptions are the focus of this background paper: the role of food aid in response to acute food insecurity. As a burgeoning literature on poverty dynamics emphasizes, there is a fundamental difference between opening up a pathway out of poverty and blocking a slide into poverty, between “cargo net” interventions that people can use to climb or be lifted over obstacles, and ‘safety net’ interventions that preserve productive assets – not least of which human capital – so as to enable independent recovery once the shock has passed (Barrett 2005, Carter and Barrett 2006). Cargo nets relate to asset accumulation and productivity improvement, while safety nets revolve around asset protection.

In trying desperately to satisfy the physiological need for frequent feeding to maintain human capital, acutely food insecure poor people must often liquidate productive assets compromising future well-being in order to survive today, although considerable and growing evidence on coping strategies demonstrates the lengths to which they commonly go to protect assets (Barrett 2002).¹ The most vulnerable members of shock-affected populations – children and women, in particular – typically suffer disproportionately from food consumption shortfalls during episodes of acute food insecurity, often suffering even when other members of the household are able to cushion themselves against shocks (Hoddinott 2006).

This need not happen. Food aid has repeatedly proved invaluable as an instrument for ensuring satisfaction of basic nutritional needs for shock-affected persons, saving untold millions of lives over the past half century or more (Barrett and Maxwell 2005). Equally importantly, timely delivery of food to acutely food insecure peoples relieves pressure to liquidate scarce productive assets, enabling recipients to resume productivity growth and asset accumulation towards a fully secure livelihood as soon as the shock passes. Food aid is thus terribly important in meeting the human right to food enshrined in the Universal Declaration on Human Rights and in protecting productive assets, especially the human capital that is the principal wealth of the poor.

¹ Barrett et al. (2006) and Hoddinott (2006), for example, present strong econometric evidence that the poor typically try to smooth assets rather than consumption in the face of shocks.

Figure 1: Emergency Food Aid Flows



Data source: World Food Programme

Can food aid also be used to help stimulate asset accumulation and productivity improvement among the chronically poor and food insecure? Absolutely. But it is almost always an inferior means of achieving those objectives because of the relatively great costs involved in intercontinental food distribution, relatively low income elasticities of demand for food, and even very poor peoples' oft-demonstrated preference for fungible cash (Barrett and Maxwell 2005). Thus except where the political additonality of food is tremendous – i.e., donors will provide food, but would not provide even a reasonable fraction of the value of that food in the form of cash – food is typically not the resource of choice for interventions intended to help the chronically food insecure onto a more secure livelihood.

Implicit recognition of the high returns to food aid used in emergency response and the relatively lower returns to food aid used for other, development-oriented purposes largely explains why emergency food aid has come to dominate global food aid flows over the past generation, both in terms of physical volumes – which grew from an average of 1.4 million metric tons (MMT) 1981-84 to an annual average of 5.4 MMT 2001-2004 – and as a share of global food aid flows by volume – 57 percent, 2001-4, versus only 16% 1981-84 (Figure 1).² These physical volume figures even understate the effect, since emergency food aid is commonly more expensive than non-emergency shipments, both because emergency flows include a far larger share of the most expensive commodities – those used for therapeutic feeding of dangerously undernourished peoples – and because transport and associated delivery costs are commonly much higher in emergencies, both due to the use of extraordinary (and extraordinarily expensive) delivery means such as airlift and due to greater need for

² These and all subsequent figures not expressly attributed to other sources come from the World Food Programme INTERFAIS data series.

security in conflict-associated emergencies or slower delivery when natural disasters have damaged infrastructure used for distribution.

There has been considerable progress over the past generation in the programming of food aid in response to acute food insecurity. The United Nations' World Food Programme (WFP) is the dominant player in emergency food aid, accounting for 73 percent of emergency deliveries worldwide in 2004, although much of that is distributed locally through non-governmental organization (NGO) partners. WFP and its partners have made much progress in the development of early warning systems, emergency needs assessment practices, nutritionally appropriate emergency and therapeutic feeding rations, and the use of modern communications, information and financial technologies for emergency response. While there always remains room for improvement, the progress of the past two decades has been tremendous and bears reinforcement and further investment.

This paper aims to highlight a few core principles that underpin the growing success in using food aid in response to acute food insecurity. Section II briefly enumerates and explains seven key characteristics of effective interventions in response to acute food insecurity. Sections III and IV then discuss and apply these principles in the context of rapid and slow onset emergencies, respectively, a distinction that matters to programming and policy. Section V offers some brief conclusions.

II. Basic Principles: The Seven Characteristics of Highly Effective Interventions

If food aid is to prove effective in satisfying the human right to food and in protecting poor and vulnerable peoples' productive asset stock so as to facilitate rapid, complete recovery from shock – or at least to prevent responses that aggravate the initial damage (e.g., public health measures to control the spread of infectious disease, public safety measures to control lawless behaviors, quick-disbursing assistance to prevent distress sale of critical assets, etc.), seven key principles must be followed. This sections enumerates these, which the subsequent two sections then illustrate with particular reference to specific case studies.

Failure to follow these principles can exact a heavy cost. Scarce emergency resources are squandered, significant holes appear in the safety nets intended to keep people from falling into destitution, thus many vulnerable persons unnecessarily fall into poverty traps. Moreover, this ensnares overseas development assistance in a related relief trap, wherein relatively expensive emergency assistance to avert humanitarian crisis crowds out relatively inexpensive investment in longer-term asset building, productivity growth and vulnerability reduction, thereby leaving people facing increased likelihood of future emergencies and donors with less flexibility to invest in longer-term development (Barrett and Carter 2001-2).

(1) Timeliness. The first core characteristic of highly effective interventions is timeliness. In emergency medicine, the "Golden Hour" is the first 60 minutes after an accident or the onset of acute illness, the window during which the chances for saving a

patient and permitting full recovery are greatest. The international humanitarian community has internalized the principle of the Golden Hour: Rapid response is essential. Over the past decade, substantial improvement in early warning systems, emergency needs assessments, supply chain management, targeting methods, and the nutritional content of food aid rations have led to major advances in emergency response. The experience of the December 2004 Asian tsunami – discussed in section III – offers a vivid illustration of the impact of timely response.

Preparedness is key to timely emergency response. This encompasses at least three distinct dimensions: effective information systems, flexibility in response, and quick-disbursing funding. There have been important advances in the first two dimensions over the past decade, much less progress than is needed in the third.

Information systems encompass at least three distinct components: early warning systems (EWS) to alert governments, donors and operational agencies of possible impending emergencies (moving information from affected populations to global centers), systems to alert vulnerable people to impending disasters (moving information the opposite way, from national, regional and global monitoring centers to local populations), and careful and credible emergency needs assessments (ENA). Operational agencies, especially United Nations agencies such as FAO and WFP, have significantly improved EWS and ENA systems over the past decade through programs such as the Global Information and Early Warning System (GIEWS), Vulnerability Analysis and Mapping (VAM), and the recently released *Emergency Food Security Assessment Handbook* (WFP 2005). These programs and products recognize actors' need to know with reasonable accuracy what will be needed, by whom, when and where, as well as how best to deliver relief supplies.

The need for information systems extends well beyond notifying central governments and donors, but equally to alerting prospectively affected peoples. Public release of long-lead climate forecasts and other early warnings generated outside of affected areas are one step in this direction. Bangladesh offers an especially encouraging story. Devastating floods brought famine as recently as the mid-1970s, yet even worse floods in recent years have been capably managed through public-private partnerships among NGOs, relief agencies, commercial food distributors, and governments. Part of the solution has been a cyclone warning system built around Asia's largest radio network, linking the national capital, Dhaka, with 143 radio stations that relay alerts to 33,000 village-based volunteers who then pass along the alert via megaphone to at-risk villagers in coastal areas prone to seasonal flooding during the annual monsoon and cyclone season (Niskala 2005). Such networks can be replicated effectively throughout much of the world vulnerable to natural disasters.

Recent years have brought important improvements in flexibility in emergency programming. Part of this comes through improvements in supply chain management. For example, recent years have seen a substantial increase in donor prepositioning of food stocks in anticipation of prospective logistical problems reaching areas with poor transport infrastructure during rainy seasons and so as to reduce ocean shipment delays.

Part of the improvement has come through development of a wider array of commodities able to more precisely meet specific nutritional needs. Protocols for emergency feeding to reduce wasting have become common and effective practice. Meanwhile, appropriate rations, including more complex blended and therapeutic foods, have been developed to meet complex needs.

The other main increase in flexibility has followed broader recognition of the need for complementary, non-food resources. Food is rarely, if ever, the main (much less the only) resource needed by those suffering acute food insecurity. Typically, affected persons need access to potable water, reasonable sanitation and shelter, safety against lawlessness, preventive health care against infectious disease, etc. Food without complementary non-food resources delivers a limited response. Increased use of cash and vouchers and greater donor responsiveness to the resource composition reflected in operational agency needs assessments seems to work. Evaluations of flexible programs generally find favorable results, especially relative to commodity-heavy emergency response packages (Barrett and Maxwell 2005, Harvey 2005).

Government policies and practices nonetheless impede timely emergency response. In 2000, the average delay in delivering Title II emergency food aid from the United States — the time between a formal, bureaucratic request and port delivery in the affected country — was nearly five months because by law all U.S. food aid must be grown in and shipped from the United States. Meanwhile, other donors not encumbered by such laws have proved inexplicably slow to make cash available in response to international consolidated appeals for emergency assistance. And although in 1991 the United Nations established a US\$50 million Central Emergency Revolving Fund (CREF) reserve for disaster relief, CREF funds cannot be released until the agencies seeking to tap the funds get a donor to pledge to reimburse the reserve, sharply limiting its usefulness in providing a quick-disbursing bridge financing for rapid response. Over the past year there have been concerted efforts to both expand the resources available through CREF — donors pledged in September 2005 to triple the fund to \$150 million — and to relax restrictions on rapid disbursement so as to shorten response times. Meanwhile, however, a child still dies every five seconds from hunger-related causes.

Much can still be done to improve timely response. One means is increased use of local and regional purchases of food aid in developing countries nearer the intended recipients. While local and regional purchases are by no means a magic bullet — indeed, they are not always desirable, particularly in markets with relatively inelastic supply such that food prices would jump in the wake of a significant expansion in local purchases — on average, they permit a more rapid response at a lower cost per unit of food than results from shipping commodities from North America. The Canadian government recognized this and in September 2005 increased the share of its food aid open to local and regional purchases from 10% to 50%. The U.S. government has been debating similar relaxation of its food aid procurement rules the past two years.

Another means is increased use of index insurance products, standing lines of emergency credit, and other, quick-disbursing financing facilities. In March 2006, WFP announced a pilot program using index insurance tied to rainfall to finance emergency response to drought in Ethiopia. The World Bank has similarly been fielding pilot trials of various climate-based insurance products to establish whether these can effectively address covariate shocks. This leads to the next key characteristic.

(2) Attends to idiosyncratic risk. Acute food insecurity is too often thought to be a product only of covariate shocks (e.g., earthquakes, floods, drought, hyperinflation) experienced by many people within a large community. But a growing body of empirical evidence finds that acute, transitory shortfalls in access to and utilization of food – as quite distinct from food availability, an inherently aggregate concept – and shocks to assets and income are disproportionately specific to individuals and households – so-called “idiosyncratic risk” – rather than experienced community-wide (Deaton 1997, Lybbert et al. 2004). This is the chief reason why the overwhelming majority of hunger-related deaths worldwide occur outside “humanitarian emergencies”, associated with covariate shocks. Nonetheless, most global systems intended for emergency response are understandably organized to address widespread disasters rather than household-specific cases. When most risk is idiosyncratic, however, this necessarily means that most episodes of acute food insecurity elicit no concerted international response.

This lacuna underscores the need for more effective, ubiquitous and continuing insurance programs, whether through financial innovations such as index insurance schemes or through de facto insurance via, for example, public employment guarantee schemes (EGS) – underpinned by food-for-work (FFW) or cash-for-work projects. A growing literature on EGS and FFW offers considerable evidence of the efficacy of EGS as insurance against idiosyncratic risk, as a means of protecting the valuable, productive assets of vulnerable peoples who suffer unexpected income loss, unemployment, or other adverse shocks (von Braun 1995, Ravallion 1999, von Braun et al. 1999, Barrett et al. 2004, Dercon 2004).

(3) Effectively Targeted. Targeting efficacy has earned widespread recognition as a key variable in determining the efficacy of food aid programming (Barrett and Maxwell 2005). Targeting encompasses questions of who, what, where, when and how to reach needy people. Especially given that much acute food insecurity is associated with idiosyncratic risk, sorting those who need support to protect assets and to satisfy the human right to food from those do not need help is terribly difficult, perhaps even moreso for food insecurity – an inherently dynamic, *ex ante* concept associated with vulnerability, rather than a static, *ex post* phenomenon easily observed and measured – than for asset, expenditure or income poverty (Barrett 2002, Webb et al. 2006). Improvements in targeting have come about partly through increased use of community-based targeting to take advantage of locally available information, and of self-targeting through EGS offering market- or below-market wages, distribution of inferior foods (i.e., foods desired mainly by poorer people) and queuing.

Barrett and Maxwell (2005) propose a decision tree framework that is especially useful for deciding what resources to send in response to acute food insecurity and how to source food, if food is the most appropriate resource to provide. The basic idea is to first establish whether local food markets function effectively enough that injections of cash or vouchers can restore food access to acutely food insecure subpopulations without driving up food prices and thereby injuring other vulnerable persons. If so, food is a slow and cumbersome resource to send. If markets do not function well, however, one needs to import food through aid channels. Then the question becomes whether to source food locally – typically a cheaper and quicker proposition – or to ship it from donor countries that are often half a world away. The most appropriate choice of where to source food turns fundamentally on food surplus availability near where one wishes to distribute food. Recognizing this, the use of local and regional purchases has increased significantly in recent years, reaching 21 percent of global food aid flows in 2004, nearly back to the historical high water mark of 25 percent in 1997.

(4) Reinforces rather than replaces local institutions. Picking up on the preceding point about local sourcing of food when appropriate, the fourth key characteristic of effective emergency response is that it reinforces rather than displaces or upsets local institutions, especially commercial distribution channels, informal social safety nets and indigenous NGOs. Medium-to-long-term food security depends fundamentally on reliable access to commercially distributed foods and locally provided forms of social protection. As the Bangladesh flood case described in section IV illustrates, when donors, governments and operational agencies seek to complement rather than supplant commercial food markets, they tend to succeed in mitigating acute food insecurity crises as they develop. Moreover, they avoid prospective dependency effects associated with market disruptions (Lentz et al. 2005). While there remain open questions as to whether and how much food aid and other transfers from outside of communities crowd out private transfers from within those communities (Lentz and Barrett 2005, Santos and Barrett 2006), even effective emergency responses – such as to the 2004 Asian tsunami – have commonly underestimated and underemployed local institutions.

(5) Efficiency. Efficiency matters for the simple reason that available resources are almost always insufficient. The experience of the December 2004 Asian tsunami, to which government and private donations exceeded needs assessments, is extremely unusual. More generally, effective emergency response requires making every dollar go as far as possible in meeting pressing human needs. Clay et al. (2004) estimate that tied food aid is 30-50% more expensive to procure and deliver than local and regional purchases. Moreover, that figure is even higher for the processed and fortified commodities on which emergency food aid operations disproportionately rely. Finding quicker, cheaper ways to get nutritionally and culturally appropriate foods to those facing a food crisis is a first-order priority in improving the effective use of food aid to address acute food insecurity.

(6) Accountability: The international humanitarian system remains largely unaccountable in emergency response operations to attend to acute food insecurity. While donors have some capacity to insist upon careful accounting for resources and

evaluation of impacts – and to discipline operational agencies for malfeasance, misfeasance or nonfeasance, at least through curtailed future support – recipients have next to no mechanisms through which to enforce good behavior by operational agencies responding to emergencies. Existing food aid-related codes of conduct are all voluntary and most apply only to agencies that distribute food aid (EuronAid, 1995; Sphere Project, 2004), not to donors, governments or other intermediaries. Moreover, much work remains to be done to operationalize these guidelines more precisely, and to get all parties to live up to their obligations. There are proposals to incorporate a universal code of conduct into a new Global Food Aid Compact, to replace the current Food Aid Convention, so as to prevent the manipulation of recipients and ensure both the operational independence of humanitarian agencies and their adherence to norms of best practice (Barrett and Maxwell 2005, 2006). There are also important, recent attempts to provide some accountability voluntarily. The Tsunami Evaluation Coalition represents one such example of an attempt by private NGOs, the Red Cross and Red Crescent Movement and United Nations agencies to improve humanitarian response by learning lessons from a major emergency and to ensure public accountability to both the giving and receiving publics. More such initiatives should be undertaken so as to help focus operational agencies on recipient need at least as much as donor demands, which often fall prey to domestic political constituencies in donor countries.

(7) The limiting factor is typically political will: Problems in achieving timely, efficient response that reinforces markets, employs effective targeting and attends to idiosyncratic as well as covariate shocks are not attributable solely to any one party. National regulatory systems and local political leaders too often obstruct rapid response, processing visa requests for aid workers slowly, holding relief supplies at port awaiting customs clearance, denying operational agencies access to certain territories, etc. Donor governments too often fail to heed flash appeals based on accurate early warning and needs assessments, as was tragically the case in Niger in 2005, or consolidated appeals for ongoing crises, as in Ethiopia in 2000. The limiting factor is typically the political will to act on information as it becomes available to policymakers but before the “CNN effect” has set in, rousing public consciousness and forcing the hand of governments and private agencies. The present global system of consolidated and flash appeals seems flawed, rarely generating the funding required to avert humanitarian crisis and commonly generating most of the resources ultimately received quite late, after much unnecessary suffering has taken place and the financial and human costs of response have skyrocketed.

III. Rapid Onset Emergencies

These seven characteristics of highly effective emergency response – the basic principles that emerge from a wide range of experiences in responding to episodes of acute food insecurity in various settings over recent decades – differ in their salience across emergencies of different sorts. In a very real sense, every emergency is unique and over-generalization is dangerous as response must be context-specific. Nonetheless, there are some useful distinctions to be drawn between two broad classes of emergencies: rapid and slow onset. Hence this section and the next.

One early consequence of many shocks is the collapse of food production and distribution systems, sometimes disrupting food availability. This is typically accompanied by deterioration in peoples' ability to access adequate and appropriate food. Food aid is often a necessary component of humanitarian response in such emergencies. For example, populations caught in a conflict are often unable to pursue their usual livelihood strategies and become either refugees or internally displaced persons lacking both food and the cash necessary to procure it. In the short term, food aid is often the only option for the protection of the human right to food for such groups and it is often a critical element in preventing the emergency of malnutrition-related disease and distress sale of critical, productive assets that compromise vulnerable peoples' future well-being.

A. Definition and examples

Rapid onset emergencies typically arise in response to natural disasters that strike with little or no warning – examples include cyclones, earthquakes, hurricanes, tsunamis, and many floods – although rapid onset emergencies can also arise in response to disease epidemics or violence. As the labels suggest, the key feature that distinguishes rapid onset emergencies from slow onset ones is the time available to prepare for a specific event. Although one can certainly prepare for general contingencies – and the emergency professionals who increasingly staff operational agencies within the United Nations system, many governments and the constellation of private nongovernmental organizations generally do an outstanding job of this – there is little or no advance warning with respect to critical details that much shape response to a specific rapid onset emergency.

Response to rapid onset emergencies can nonetheless be highly effective in spite of the inability to plan all the essential details in advance. The experience following the December 26, 2004, Asian tsunami offers perhaps the best recent illustration of effective response to a rapid onset emergency.³ This was one of the greatest natural disasters in recorded history, the fourth largest earthquake of modern times and the most devastating resulting tsunami recorded. As many as 300,000 lives were lost or missing, more than 1.7 million people displaced, many more left unemployed or without crucial livelihood assets (e.g., fishing boats, stores, livestock) destroyed by the earthquake and subsequent tsunami, and roughly \$10 billion in damage incurred on two continents (Asia and Africa), all in the span of one day, most within two hours shortly after dawn on the west coast of Sumatra. The resulting food insecurity was quite acute and widespread, with sharp falls in food access and utilization, and in some cases in food availability, due to massive disruption of livelihoods and infrastructure. The capacity for a humanitarian disaster and far greater loss of life in the weeks and months following the tsunami was very real.

Yet the response to the tsunami was nearly as awesome as the event itself. International donors, both private and public, responded quickly and generously, contributing an estimated \$15.5 billion internationally, most of it unrestricted in form.

³ For details, see Cosgrave (2005), Webb (2005) and WHO (2005), on which this and the subsequent paragraphs draw heavily.

Moreover, donors were unprecedently quick to translate pledges into actual disbursements, closing that critical gap between the publicity-attracting pledge and the operations-enabling disbursements to a matter of days or weeks, rather than months or years, as too often happens in the wake of disasters. This allowed widespread relief efforts in the immediate aftermath of the earthquake and tsunami, followed by rapid transition to rehabilitation, more flexible use of cash and non-food resources to meet specific, local needs, and attracted more organizations to participate than is the norm. Food aid deliveries were quickly tailored to ensure not only sufficient energy was made available to recipients but also adequate micronutrient availability through fortified biscuits, noodles and vegetable oil, iodized salt, etc. The most devastated areas of Indonesia, Sri Lanka, etc. were able to begin the process of reconstruction quickly in spite of the horrendous losses caused by the earthquake and ensuing tsunami. Remarkably, some humanitarian organizations faced the extraordinary problem of having to contact donors to return unneeded funds or to ask that they redirect the funds to other distressed regions for which pledges did not come close to meeting needs. Most importantly, widespread early predictions of massive subsequent excess mortality due to infectious and hunger-related disease never materialized.

As frequently occurs in rapid onset emergencies, coordination of needs assessment and interventions was sometimes insufficient, with excess supply of popular services, such as medical teams, and some underprovision of essential but less glamorous ones like potable water. While there remains room for improvement even in effective responses such as to the Asian tsunami, this episode vividly demonstrates the capacity of the international community to respond quickly, generously and effectively to mitigate a humanitarian crisis associated with acute food insecurity in response to a rapid onset emergency.

Unfortunately, the response to the tsunami is somewhat atypical, although response to rapid onset emergencies has become highly professionalized in recent years. Nonetheless, a number of special circumstances that likely contributed to the extraordinary success of the tsunami response: the timing of the disaster the day after Christmas and at the end of the calendar year, the vivid imagery of the catastrophe, the relatively strong institutional and physical infrastructure in place in much of south and southeast Asia, etc. In particular, the tsunami captured public attention that too often proves elusive, generating tremendous political will to address acute needs immediately and effectively and to avert any further suffering by those already devastated by their losses.

One common problem in response to rapid onset emergencies is excessive emphasis on food aid sourced from donor countries. Although massive shocks that devastate local infrastructure and agricultural production almost invariably leave large populations in dire need of food assistance acute food insecurity commonly results from a crisis of food access, not food availability. In urban areas especially, established commercial trading networks commonly maintain their distribution capacity and can be enlisted to help provision more inaccessible areas where food insecurity has become most acute. This

limits the need for slow and expensive transoceanic shipment of food aid and puts a premium on effective use of local and regional purchasing mechanisms.

The October 2005 Pakistan earthquake response provides an excellent example. Pakistan was a net food exporter before the earthquake hit and had just enjoyed an above-average crop harvest.⁴ The most affected regions, the Northwest Frontier Province and Azad Jammu Kashmir, were two of the most food insecure regions of the country before the natural disaster, already importing foods from surplus areas of the country and neighboring countries. The earthquake massively disrupted infrastructure in these regions, necessitating extraordinary logistical efforts to deliver food. But food remained readily available in Pakistan, with minimal if any effects on local prices, production incentives or urban residents outside the immediate impact zone. The Government of Pakistan appropriately launched cash compensation schemes to restore food access for affected persons in urban areas and targeted relief food to those in areas where market access had been substantially disrupted. With some important exceptions, donors largely provided cash for food aid procurement in local and regional markets, expediting response and enhancing the resource efficiency of the operations. While no substantive evaluations have yet been made available of this operation, initial indications are that it too was generally successful.

One final form of rapid onset emergencies typically attracts less attention: household-specific shocks due to accidents, sudden severe illness (e.g., malaria, cholera, dengue fever, etc.), mortality, precipitous crop failure or livestock loss, fire, theft or sudden unemployment. Such shocks are distressingly commonplace, especially in poorer communities. Moreover, recent empirical studies suggest they typically account for most household-level collapses into long-term poverty (Barrett et al. 2006, Krishna 2006). But because these are largely idiosyncratic shocks, with considerable variation of experience across households and individuals within a given region, the resulting acute food insecurity is too often overlooked by humanitarian and development agencies in the course of standard planning for emergency response. These are the ubiquitous-but-silent emergencies that do not make it onto television screens in the world's financial and political capitols. But these are serious emergencies indeed for affected households and when local financial services – credit and insurance – and informal social protection mechanisms fail to provide adequate insurance coverage in the wake of such events, the longer-term human suffering and economic losses resulting from short-lived shocks can be considerable (Dercon 2004).

Food for work (FFW) projects and other employment guarantee schemes (EGS) can be used to harness the one major asset virtually all poor people control — their labor — to feed their families, while in the process building or maintaining important physical assets to stimulate productivity and thus local development through public employment guarantee schemes. It must be borne in mind that food aid-based safety nets like FFW almost always require other, complementary inputs or activities to protect the productive assets of vulnerable peoples and that safety nets' role is less to help move recipients out of chronic poverty than to prevent decline into destitution (Barrett and Maxwell 2005).

⁴ This paragraph draws heavily on Nyberg (2005).

Properly conceptualized and designed, safety nets are not intended for those who are *already* destitute. Rather, they provide a means to prevent people from *becoming* destitute – to keep transitory poverty or food insecurity from becoming chronic – and to provide the insurance needed to encourage vulnerable populations to choose higher-risk, higher-reward livelihood strategies that can facilitate their climb out of chronic poverty through steady accumulation and improved productivity of productive assets (Barrett 2005, Carter and Barrett 2006).

The record with respect to FFW efficacy is checkered (Ravallion 1999, von Braun et al. 1999, Barrett et al. 2004). A key determinant of efficacy has been the established, reliable presence and functioning of government or NGO providers. FFW or other food-based safety nets must be ready when households find they need assistance. While in slow onset disasters (see section IV), donors and operational agencies often have time to field new programs to respond to emerging need, rapid onset, household-level emergencies require pre-existing response capacity in order to succeed. This typically does not occur where vulnerability results from conflict or poor governance associated with a failed state, but can work effectively in insuring against climatic, economic, environmental and health shocks experienced by some households within a region.

B. Lessons Learned:

Food aid in response to acute food insecurity associated with rapid onset emergencies based on covariate shocks such as cyclones, earthquakes, hurricanes and tsunamis appropriately focuses on the direct protection of human lives and the productive assets of vulnerable peoples, primarily through support for the nutritional status of groups directly affected by disasters. The effectiveness of response depends enormously on rapid identification of who and what is affected – for example, is food availability through local production and marketing infrastructure affected? Whose livelihoods have been disrupted, causing acute problems of food access? – on accurate identification of the balance needed between food and non-food (e.g., health, shelter, water) resources, and on rapid response at sufficient scale, with minimal lags between pledges and disbursement of resources. Interagency coordination on professional needs assessments across multiple sectors and over interventions is essential in order to avoid costly duplication of efforts and dangerous gaps in coverage. Close attention typically needs to be paid to specific micronutrient requirements of affected populations, not just to raw food tonnage gaps. Engagement with local institutions and markets can effectively multiply the human, financial and logistical resources available to address pressing human needs. And supply chain management is critical, especially as many low-income countries have limited port and bulk rail or road capacity, often leading to bottlenecks in transport that slow down commodity distribution after port delivery. This has repeatedly proved a problem in land-locked countries in central and southern Africa over the past decade. On balance, however, major advances have occurred in international food aid response to rapid onset emergencies.

Progress has been somewhat less significant, however, in addressing acute food insecurity that originates with idiosyncratic, household- or individual-specific shocks.

Food-for-work and other employment guarantee schemes have proved reasonably effective as insurance mechanisms for such situations (von Braun 1995, Ravallion 1999, von Braun et al. 1999, Barrett et al. 2004, Barrett and Maxwell 2005). Lots has been learned about how to design and operate EGS and FFW projects – how to set appropriate wage rates, proper oversight of targeting, ensuring availability of complementary, non-labor resources and technical oversight of projects, etc. Well-designed, labor-based safety nets have proved effective at providing insurance for much of the able-bodied population, even crowding in private investment in some cases (Holden et al. 2006). The main challenge is to design, staff and resource reliable, standing programs that are accessible to households when they need such support. Such safety nets must provide predictable response mechanisms to help households cope with adverse shocks effectively without compromising their future well-being.

IV. Slow Onset Emergencies

A. Definition and examples:

Slow onset emergencies are, as the name suggests, disasters that emerge slowly and predictably over time. The primary examples are associated with climatic shocks – especially drought but sometimes floods as well – conflict, macroeconomic crises (e.g., associated with hyperinflation and other financial crises) and disease pandemics that build slowly. Unlike with rapid onset emergencies, there is time to prepare for slow onset emergencies before the full force of the shock hits. Slow onset emergencies happen regularly and with advance warning of, typically, several weeks to many months.

There are also seasonally recurring crises – such as monsoon season flooding in coastal areas of south Asia or dry season hunger in arid and semi-arid regions of Africa – that are periodic (i.e., regular and predictable every year). In areas with poor road infrastructure that often becomes impassable in rainy seasons, operational agencies sometimes preposition supplies months ahead of the anticipated period of need. Unfortunately, the lead time available for preparing for slow onset emergencies, whether seasonal or regular, is not always well used.

The Sahelian drought and locust infestation of 2004-5 provides an unfortunate example of effective early warning squandered. Damage to crop and livestock production was widely and reasonably accurately predicted at least six months in advance, with an international appeal issued for Niger in November 2004. Although physical food availability declines ultimately proved only moderate – not severe, as some had worried – deep and widespread pre-existing poverty quickly led to a humanitarian crisis whose origins lay primarily in the chronic food insecurity the poor of Niger and neighboring countries had suffered for years. Their precarious circumstances left millions critically vulnerable, just a mild shock away from life-threatening nutrient deficiencies. In spite of effective early warning systems and a flash appeal to avert a prospective crisis in the making, the silent emergency went unheeded until television images of starving children began appearing on televisions in June-July 2005 and global cries for action roused donors into rapid, if belated and terribly expensive response. This was a classic case

where lack of accountability and political will led to unnecessary human suffering and inefficient resource use to belatedly cope with catastrophic asset loss.

Thankfully, not all slow onset disasters follow such a course. For example, from July to November 1998, Bangladesh experienced its most disastrous flooding in modern history.⁵ At the flood's peak in mid-September, water inundated 66 percent of the nation's land. Although the country is regularly affected by floods from overflowing rivers and coastal tidal rises, this flood substantially exceeded previous ones in 1954, 1974, and 1988. Crop losses were extensive. In the fall of 1998, the country faced a 22 percent shortfall between food production and national consumption, while twenty million people were made homeless. The magnitude and duration of the flooding raised the grim prospect of famine, as occurred in 1974-75, when 30,000-100,000 people died in the wake of more modest flooding. In spite of the magnitude of the flood and the associated production losses, interruptions to transport and displacement of households, no major food crisis emerged. The primary reason is that massive private sector imports, made possible by market and trade liberalization earlier in the 1990s and by government investment in marketing infrastructure, stabilized rice markets, enabling government and international NGOs to focus effectively on reaching four or so million most desperate households with direct food transfers. The *aman* rice harvest in November/December 1997 had also been poor, so stocks were relatively low, prices rose and the private sector responded by importing nearly 900,000 tons of rice from India in the first five months of 1998. As the floods began, private sector imports resumed, and at an accelerated pace. The Government of Bangladesh removed rice import tariffs and facilitated speedy transshipment and movement of grains into and across the country. Prices of food grains that escalated just before the floods remained relatively steady during and after the floods, rising only 7.0% August-November over the May-July period. In contrast, in 1974-75 rice prices jumped 58.2% over the same period and most famine mortality arose because staple foods were priced beyond the reach of the poor. The 1974 price spike cannot be explained by production shortfalls – which ultimately proved less than in 1998 – but were instead the consequence of poorly functioning domestic food markets and inadequate efforts to harness the potential of local markets and institutions to help avert a potential crisis. The timely availability of food was undoubtedly helped by the immediate food aid pledge of 650,000 tons when government finally sought international assistance in late August. But ultimately the government distributed less than one-sixth as much rice as the private sector, and households relied far more heavily on private borrowing than on government or NGO transfers to cope with the flooding. The key to averting a humanitarian disaster was the quick response of the private sector – actively encouraged and facilitated by government – which effectively stabilized rice prices during the crisis, thereby protecting many poor households' food security through the worst of the flooding.

Another effective response to slow onset disasters has often come in the form of public works programs, including food aid-based safety nets such as food-for-work FFW) schemes used to create employment where labor and financial markets are otherwise weak. FFW and related EGS have been used effectively in many countries to mop up

⁵ This narrative comes from Barrett and Maxwell (2005).

surplus labor as it becomes available, before people have been forced to reduce nutrient intake to a level that might compromise their ability to undertake physically demanding work (von Braun 1995, Ravallion 1999, von Braun et al. 1999, Barrett et al. 2004). Food-based safety nets are best used in combination with other resources that provide unconditional cash-based transfers to facilitate participants' expenditures on other essential goods and services (e.g., medicine, shelter) and transfers for those unable to work (Barrett and Maxwell 2005).

Financing is a common problem in effective preparation for slow onset emergencies, far moreso than for rapid onset emergencies. The problem is one of political will and the challenge of capturing policymakers' and public attention in slowly developing crises, what Moeller (1999) refers to as "compassion fatigue". The situation is rather like the well-known parable of the frog and the boiling water: when dropped straight into a pot of boiling water, a frog immediately jumps out, but when put into a pot of lukewarm water which is then slowly boiled, the frog will stay in the pan until it cooks to death. Rapid onset emergencies are like the pot of boiling water, while slow onset disasters are more like the pot that is gradually warmed to a deadly boil.

In one innovative pilot effort to address this common problem of political will and timely financing, in March 2006, the United Nations World Food Program announced it paid the French insurance company AXA Re US\$930,000 for an insurance policy against drought in Ethiopia that would pay up to \$7.1 million to help up to 67,000 households in the event of inadequate rainfall during the critical March-October period. The idea of such index insurance is to use objectively verifiable, nonmanipulable indicators of impending acute food insecurity to trigger prompt payout according to pre-specified contractual terms.

The thorniest sorts of slow onset emergencies at large scale arise in the context of complex emergencies and protracted relief and recovery operations (PRROs). Slightly adapting the definition advanced by Salama et al. (2004), complex emergencies are situations in which food insecurity among the civilian population substantially increases above the population baseline directly or indirectly as a result of conflict. The number and scale of complex emergencies associated with violent conflict has risen sharply over the past decade or so, especially in sub-Saharan Africa. The growing prevalence of such crises and associated PRROs has created particular problems for the international humanitarian community as resources for addressing emergencies tend to wane after a period of months. For example, there have been regular problems of ration cuts in refugee camps in southern and western Sudan, the Democratic Republic of Congo, Somalia and elsewhere, caused by ebbs in food aid pipelines for PRROs. Such problems are exceedingly rare in rapid onset emergencies that do not become protracted crises. But in protracted emergencies, resource availability commonly falls below half of assessed needs, forcing halving of rations and other dramatic acts intended both to husband scarce resources and to shock policymakers into attending to pressing needs. These problems are compounded by the challenges of safety issues for emergency personnel, and the thorny political problems associated with humanitarian agencies' operational independence from political entities, especially warring parties.

As Flores et al. (2005) emphasize, there remains a significant policy gap in addressing the needs of peoples affected by complex emergencies. The professionalization of humanitarian response discussed in the previous section in the context of rapid onset emergencies has sparked major improvements over the past decade or so in conditions within camps for refugees and internally displaced persons (IDPs). This has included reasonable standardized nutritional survey methods, supplementary and therapeutic feeding protocols, quasi-universal camp food rations providing at least 2100 Kcal/day per person with adequate mineral and vitamin content to prevent outbreaks of micronutrient deficiency disorders, and other clear advances in health and nutrition in emergency response. Today, the highest rates of acute food insecurity and mortality in complex emergencies occur in non-camp settings, where such rates have been increasing (Salama 2004). The epidemiological research on crisis response was based heavily on camp settings and thus the paradigms on which response to complex emergencies has been based are built around these structured, geographically compact arrangements, not the more fluid settings that exist outside of refugee and IDP camps. The benefits of that body of research and experience have not spilled over into marked improvements in practice in non-camp settings. Indeed, there are distressingly few generalizable lessons learned to date about how communities, households and individuals cope most effectively with protracted crises and how policy interventions can most effectively enhance and supplement productive, private responses. Perhaps most fundamentally, “there is a need to address the more distal underlying causes of complex emergencies, and thus work at the levels of primary and secondary prevention” (Salama et al. 2004, p. 1804).

Just as there are idiosyncratic forms of rapid onset emergencies, so too are there individual- and household-specific forms of slow onset emergencies. These are mainly associated with slow onset infectious disease, especially HIV/AIDS, which gradually and predictably compromises food access and utilization for affected peoples (both infected individuals and their dependents). The insidious nature of the HIV/AIDS pandemic in sub-Saharan Africa has led some commentators to label it a “new variant famine” (de Waal and Whiteside 2003). Unlike many other kinds of shocks that cause acute food insecurity, HIV/AIDS is often hidden in a shroud of stigma and silence while it gradually undermines established coping strategies for dealing with shocks (e.g., labor migration). Moreover, because HIV/AIDS primarily infects and kills people in the sexually active age bracket, which is of course the most economically active demographic group, communities hard hit by the AIDS pandemic tend to be left with households disproportionately heavy with very elderly and very young members (i.e., with a high dependency ratio), and thus especially vulnerable to modest interruptions to food access (Haddad and Gillespie 2001, UNAIDS/WHO 2002).

The Southern African food crisis of 2002/2003 highlighted the complex interaction between acute food insecurity associated with a classic slow onset emergency – drought – and this new variant of slow onset disaster due to HIV/AIDS (Barrett and Maxwell 2005). For a number of years, the main emphasis of intervention in the HIV/AIDS pandemic was on awareness and prevention, and on interventions to assist infected individuals. More recently, the broader impacts of the pandemic have been recognized,

as has been the need for a broader set of interventions focusing on both the infected and affected population, and at the levels of the prevention and care of people living with AIDS, and mitigation of its broader effects. The AIDS pandemic is now seen by many observers as representing a new and completely different kind of emergency, one requiring new approaches and thinking to both humanitarian response and mitigation. There is not yet, however, an accepted set of protocols on how best to address this most recent form of slow onset, idiosyncratic emergency. Food aid is widely used as a major component of safety nets to mitigate the impact of the HIV/AIDS pandemic in important cases in sub-Saharan Africa, although it is unclear how appropriate or effective food-based responses to HIV/AIDS are relative to alternative interventions (Barrett and Maxwell 2005).

B. Lessons Learned:

Individuals and communities are resilient. Given the resources to manage shocks while they still have time to do so, crises can often be averted through early preventive response by donors and proactive behaviors by recipients given the means to cope productively with shocks. This is the core motivation behind the emerging concept of “productive safety nets” currently being piloted in Ethiopia after that country’s recurrent problems with slow onset disasters that led to massive food aid shipments and increasing numbers of destitutes. It is also a key lesson learned from more successful episodes, such as during the Bangladesh floods of 1998. Massive deliveries of food aid are often unnecessary if timely deliveries of appropriate resources – often including commodities, but not limited to food – are made available in order to equip communities and vulnerable households and persons to manage the oncoming shock before they collapse into crisis. Reinforcing local institutions and markets is central to the strategy of harnessing the natural resiliency of social systems.

As with rapid onset emergencies, information systems, supply chain management and quick-disbursing financial facilities play an important role in ensuring timely and cost-effective provision and targeting of resources to avert human suffering and unnecessary loss of livelihoods. But in slow onset emergencies, early warning systems play a far greater role, buying the international humanitarian community time to design and implement response appropriate to the particulars of the situation.

This merely underscores, however, that the key limiting factor is typically less anything technocratic and more a matter of political will to respond promptly and substantively to credible warnings rather than to wait until images of starving children are broadcast around the world by CNN. The Consolidated Appeals Process established by the United Nations in 1991 to mobilize resources in response to emergencies has largely proved ineffective. UN Secretary General Kofi Annan reported in October 2005 that flash appeals had generated on average only 16 percent of the requested funds (Fleshman 2006). This has proved especially problematic for complex emergencies and protracted relief and recovery operations. The world must develop a more effective means of addressing rapid onset emergencies which should, in principle, be easier to handle than

rapid onset disasters. Yet the latter seem to be managed better, on average, than the former.

V. Conclusions

Famine – the most dramatic form of acute food insecurity – was once commonplace, devastating societies somewhere on the globe at least several times each century (Devereux 1993). Even in the twentieth century, tens of millions of people died in modern famines in places such as Bangladesh, China, Ethiopia, India, and the Sahel. Thankfully, acute food insecurity at this scale has largely been relegated to the historical record in the middle and high income countries. But famine seems on its way to overdue extinction even in poor countries. Much of this can be attributed to the professionalization of humanitarian response, partly due to improved understanding of acute food insecurity, but mainly due to greater heed paid to the seven key characteristics of highly effective emergency response.

The global humanitarian response community has developed an extensive experiential base for responding effectively to acute food insecurity associated with both rapid onset emergencies most commonly caused by natural disasters such as earthquakes, hurricanes and tsunamis, and slow onset emergencies due both to natural disasters such as drought, floods or pest infestations, as well as with violent conflict. The main limiting factor is political will to provide the needed resources on a timely basis. As cases such as the December 2004 tsunami vividly illustrate, humanitarian agencies can respond with impressive timeliness and skill. Food aid is a key element of that rapid response portfolio.

Emergency food aid and safety nets to ameliorate or prevent acute food insecurity are not sufficient to address the broader problem of chronic food insecurity, hunger and poverty, which pose a far greater challenge that can only be effectively addressed as part of a broader development strategy (Barrett and Maxwell 2005). But they are a necessary element of any comprehensive strategy to reduce chronic food insecurity. When crisis imperils the human right to food or vulnerable peoples' capacity to safeguard the productive assets on which their future livelihoods depend, the resulting acute food insecurity can be effectively addressed by rapid response based on appropriate needs assessments and supported by quick-disbursing resources, effective information systems and the political will necessary to put such resources and institutions to work effectively to prevent unnecessary human suffering.

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