

HUGY00096

A0005

Famine

P. J. Atkins, Durham University, Durham, UK

© 2009 Elsevier Inc. All rights reserved.

Glossary

- G0005 **Coping Strategies** The strategies and tactics that people employ to minimize the stress associated with livelihood crises and other events.
- G0010 **Famine** A food crisis resulting in major excess mortality and widespread severe, acute malnutrition.
- G0015 **Food Insecurity** Unavailability of food due to insufficient purchasing power, inappropriate distribution, or inadequate utilization at the household level.
- G0020 **Livelihoods** The ways in which people make a living, including various means of earning income, goods in kind, or access to resources and services.
- G0025 **Resilience** The ability of people to recover from stress and to protect themselves against future stresses.
- G0030 **Vulnerability** The degree to which a group (family or community) is likely to experience harm due to exposure to stress.

S0005

Introduction

- P0005 As a word, 'famine' is so emotive that it affirms the affectual power of language and, along with iconic images of starving children, it can change the world. An example is Michael Buerk's BBC/NBC television report from Korem on the Ethiopian famine in 1984. An estimated 470 million people around the world watched horrified as the voice-over described the scene: Dawn, and as the sun breaks through the piercing chill of night on the plain outside Korem it lights up a biblical famine, now, in the 20th century. This place, say workers here, is the closest thing to hell on earth. Thousands of wasted people are coming here for help. Many find only death. (Michael Buerk, 1984).
- P0010 And yet famine's sensational headline potential can get in the way of thinking about the more general issues of malnutrition and food insecurity. Recent research on famine sees it as the extension of structural, long-term vulnerabilities in society rather than as the result of unpredictable 'acts of God'.

Definitions: The F-Word

S0010

Popular definitions of famine such as 'an increase in death rates due to regional mass starvation' have proved inadequate for a number of reasons. First, increased mortality is not a universal feature of famines, and deaths anyway are more usually the result of disease than of starvation. Second, famines are certainly limited in space but at what scale? Are food shortages in a few villages enough to declare a famine or should we reserve the term for a region, province, or a whole country? Third, famines vary in their causality and structure, so should an element of explanation be added to that of description, for instance 'drought famine', or should the terminology encompass 'complex emergencies', which may have several elements, including war? Fourth, famines are time limited. Most commentators seem to agree that they last only for a matter of months, or perhaps a year or two, whereas the chronic global problem of undernourishment is a long-term one affecting 800 million people, many of whom have accompanying deficiency diseases and impaired immune systems. So, is famine qualitatively different from hunger and not just the opposite of food security? Fifth, famines sometimes happen when there is food available but it is expensive or inaccessible to those in need. Finally, famine is often a symptom of broader issues of poverty and is therefore embedded in livelihood systems generally. A better definition might be 'a widespread, acute crisis of livelihoods'.

However, such academic cavils and caveats need to be presented carefully if they are not to seem churlish. Those of us debating definitions need to remember that the politicians who control the purse strings of food aid are most clearly moved by the label famine, coupled with high media visibility. This leads to the argument sometimes articulated that famines should only be declared for large-scale, acute events because to do so more frequently would 'debase the coinage'.

Definitions remain difficult and controversial. Recent food emergencies, concentrated mainly in sub-Saharan Africa (SSA), have shown that consensus is difficult to achieve even among non-governmental organizations (NGOs), let alone between governments and international aid agencies such as the World Food Program (WFP). This is partly because these organizations have

different, and sometimes contradictory, interests; but there are also technical issues of measurement that need to be addressed.

migration to locations where external support is available (food aid). The unfolding of these coping strategies is context specific, so their use as general famine descriptors and predictors is problematic. A recent development is CARE/WFP's Coping Strategies Index, which is being used both for monitoring and intervention purposes.

It has been suggested that measurement should focus on intensity (**Table 1**) and magnitude (**Table 2**). The criteria (mortality, wasting, and edema (swelling due to fluid retention)) are well-known indicators of food problems, although the thresholds between the various categories are arbitrary to some extent. Such an approach is subject to all of the problems that afflict the measurement of socioeconomic phenomena in space, the most obvious being scale of analysis.

Famine early warning systems (FEWSs) are an aspect of measurement. The Global Information and Early Warning System of the Food and Agriculture Organization (FAO) was established in 1975, and the interagency Food Insecurity and Vulnerability Information and Mapping Systems in 1996. The United States Agency for International Development (USAID)-sponsored FEWS NET started in 1985. In addition to global FEWS, many countries have their own systems, as do the large NGOs. These provide regularly updated lists of regions said to require assistance, based upon various methods of

S0015 **Measurement: Intensity, Magnitude, and Early Warning**

P0030 The social dislocation accompanying famines, especially when they are associated with war or disasters such as floods, often means that the measurement of consequences is difficult. The spatial characteristics of famine, such as extent and localized concentration, are complex and usually dynamic, for instance when migration follows livelihood failure. A crisis may move from hunger to famine through a series of stages and, if the early signs can be recognized, then there is a chance that excess mortality can be averted later on. In the early stages of a famine, people's primary goal is to avoid the loss of land, livestock, and equipment. The commonest coping strategy at this point is self-imposed food rationing. Second, there is dietary change, such as the consumption of wild foods, immature crops, and even seeds. Third, families may send away some of their number, for instance children to be fed by neighbors or relatives who still have food. Fourth, taking loans or selling assets may become necessary, which may not be reversible at a later stage, followed possibly by begging or

T0005 **Table 1** Famine intensity

<i>Level</i>	<i>Crude mortality rate (per 10 000 per day)</i>	<i>Wasting (%)</i>	<i>Edema</i>	<i>Livelihoods: food security descriptors</i>
0. Food security	<0.2	<2.3		Social system cohesive; prices stable; negligible adoption of coping strategies
1. Food insecurity	0.2–0.5	2.3–10		Social system cohesive; price instability, and seasonal shortage of key items; reversible 'adaptive strategies' employed
2. Food crisis	0.5–1.0	10–20	✓	Social system significantly stressed but remains largely cohesive; dramatic rise in price of food and other basic items; adaptive mechanisms start to fail; increase in irreversible coping strategies
3. Famine	1–5	20–40	✓	Clear signs of social breakdown; markets begin to close or collapse; coping strategies exhausted and survival strategies adopted; affected population identify food as the dominant problem in the onset of the crisis
4. Severe famine	5–15	> 40	✓	Widespread social breakdown; markets closed or inaccessible to affected population; survival strategies widespread; affected population identify food as dominant problem in onset of crisis
5. Extreme famine	> 15	> 40	✓	Complete social breakdown; widespread mortality; affected population identify food as dominant problem in onset of crisis

After Howe, P. and Devereux, S. (2004) Famine intensity and magnitude scales: A proposal for an instrumental definition of famine. *Disasters* 28: 353–372.

Note: wasting defined as the proportion of the children 6 months to 5 years who are below 80% of the median weight-for-height.

AU1

P0035

AU2

P0040

AU3

AU4

T0010 **Table 2** The magnitude scale

Category	Phrase designation	Mortality range
A	Minor famine	0–999
B	Moderate famine	1000–9999
C	Major famine	10 000–99 999
D	Great famine	100 000–999 999
E	Catastrophic famine	≥ 1 000 000

From Howe, P. and Devereux, S. (2004). Famine intensity and magnitude scales: A proposal for an instrumental definition of famine. *Disasters* 28: 353–372.

AU5 declaring alerts. Geographic Information System (GIS) cartographies of famine and food insecurity have become central to these methodologies, along with satellite remote sensing which is used to show rainfall and also to delineate areas of drought anomaly on 'greenness maps' of vegetation.

P0045 Most FEWS products have hitherto been based on a belief that food availability decline (FAD) causes famines and the application of the methodology has been top-down. However recently, livelihood mapping and food economy reports have been added, enabling grassroots needs assessments of vulnerable groups within a regional geography of zones that are homogeneous in terms of natural resources and livelihood profiles. This approach is based upon the insight that famine does not begin to kill people until it has destroyed their livelihoods. Spatial analysis, then, has been enthusiastically embraced by a range of institutions, and maps are regularly used in food emergencies. Since 1994 the WFP has refined its Vulnerability and Analysis Mapping to the point where it is used regularly for food aid targeting and famine relief. Baseline vulnerability and food security assessments feed data into WFP disaster mitigation programs.

P0050 The scientific prediction and identification of famine has, of course, to be backed up with the political will to act upon the warning, but this has not always happened, bringing the technocratic, cartographic paradigm of famine relief into disrepute. The WFP rarely receives all of the funding it requires for its flash appeals (80% is the average) because politicians need incentives to act.

P0055 A final aspect of measurement, retrospective demography, comes if mortality cannot be estimated in real time. Apart from the obvious increase in deaths, there is usually also an immediate reduction in fertility due to starvation-induced amenorrhoea (menstrual failure). Both are clearly visible in the population pyramid of China, which suffered a horrific famine between 1958 and 1962. Postfamine populations also tend to have a higher proportion of girls and women than normal, for complex reasons that are probably to do with bodily resistance to stress. There are also more in the age groups 10–45 because of the adverse impact upon vulnerable younger and older people.

Famine: A Conceptual Genealogy

S0020

P0060 The late-eighteenth-century argument of Thomas Malthus was that populations (he meant working people) were at risk of famine because they expand faster than their means of sustenance. Although disproved in the nineteenth century by increased crop yields and the establishment of a worldwide trade in foodstuffs, this idea was recycled in the late twentieth century, when it became a negative commentary on the ability of post-colonial states in the Third World to meet the basic needs of their rapidly growing populations. There are subsidiary, ongoing debates that global resources are somehow insufficient to accommodate further economic and demographic expansion, and that the ever-growing human imprint will irrevocably damage the environment.

P0065 Unfortunately for the many scholars with genuine concerns about sustainability, or who wish to empower women with regard to choices about family size, the excesses of the neo-Malthusians have undermined the 'too many people' strand of thinking. Their predictions of dire consequences have often been exaggerated and their ethics questionable. Examples include the frankly reprehensible 'Lifeboat ethics: the case against helping the poor' (1974) of Hardin, and the triage advocated in *Famine 1975! America's decision: who will survive?* (1967) by the brothers Paddock. Even the science assumed by Malthus and his followers, that famines represent a 'check' on population growth, is disproved by demographers. The evidence overwhelmingly demonstrates that fertility rebounds after famines and that numbers eventually recover.

P0070 In the nineteenth century the discussion of famine was influenced by catastrophes in Ireland and India. In the former, the fungal disease *Phytophthora infestans* (potato blight) ruined the crops of 1845, 1846, and 1848, causing an excess mortality estimated at 1 million. The FAD for individual households (at the same time that food was being exported from Ireland to Britain), coupled with widespread evictions, caused destitution that the state only half-heartedly dealt with through public works. The consequences, such as a diaspora of 2 million Irish emigrants, are well known but the recent cluster of publications inspired by the 150th anniversary of the 'potato famine' has added value through a number of powerful 'famine imaginaries'.

P0075 The Indian famines were in the Delhi region, 1860–61; Cuttack, 1865–66; West Bengal, 1873–74; and southern India, 1877; and various experiments with relief eventually culminated in the systematic response of the Famine Codes. These were first formulated in 1883 and went through various guises in the different provinces. In essence, they were a precursor of the modern FEWS, using a variety of indicators of food insecurity (crop failure, market prices) as triggers for preplanned

responses, such as food for work, food distribution through handouts, soup kitchens, or relief from taxes. Understandable questioning of the motivations of such colonial surveillant biopolitics should not blind us to the conceptual significance of this development.

impact, for instance of overgrazing upon desertification or deforestation upon floods. In the new millennium hazards analysis has renewed in popularity due to the need to understand and mitigate the extreme events predicted to come with 'global warming'.

P0080 Ironically, although in the modern age the capacity to deal with famine has been maximized through enhanced production, better transport, and the initiation of monitoring, nevertheless the twentieth century saw the greatest number of famine deaths in history. Famine-related mortality (not all from starvation) has been variously estimated, but a total of 70 million seems to be very likely. (Table 3).

Second, we can identify a humanitarian turn in attitudes to famine. The formation of Oxfam in 1942 and other international NGOs after the war was paralleled by an increasing commitment by Western governments to food aid, and the formation of the WFP by the United Nations (UN) in 1961. It is possible to be cynical about the strategic aims of food aid donors and to argue that they should pay more attention to protecting livelihoods, but the need for short-term emergency interventions remains. An interesting development of antifamine action in recent decades has been the involvement of pop musicians in high-profile events, such as the Concert for Bangladesh (1971), BandAid (1984), and LiveAid (1985).

P0085 Recent work on famines in geography and cognate disciplines can be divided into four categories. First, a dominant theme has been that of 'natural' hazards: famines associated with the destruction of crops or disruption of infrastructure that comes with floods, droughts, or plagues of locusts. The word natural was eventually questioned as we learned more about human

The humanitarian theme has recently achieved greater intellectual rigor as the result of a debate on the

T0015 **Table 3** Twentieth century famines: excess mortality in thousands

Years	Location	Deaths	Causes
1899–1901	NW India	1000	Drought
1903–06	Hausaland, Nigeria	5	Drought
1906–07	S Tanzania	37.5	Conflict
1913–14	Sahel, W Africa	125	Drought
1917–19	C Tanzania	30	Conflict and drought
1920–21	Gansu and Shaanxi, China	500	Drought
1921–22	USSR	9000	Drought and conflict
1927	NW China	3000–6000	Natural disasters
1929	Hunan, China	2000	Drought and conflict
1932–34	Ukraine, USSR	7000–8000	Government policy
1943	Henan, China	5000	Conflict
1943	Bengal, India	2100–3000	Conflict
1943–44	Rwanda	300	Conflict and drought
1944	Netherlands	10	Conflict
1946–47	USSR	2000	Drought and government policy
1957–58	Tigray, Ethiopia	100–397	Drought and locusts
1958–62	China	30 000–33 000	Government policy
1966	Wollo, Ethiopia	45–60	Drought
1968–70	Biafra, Nigeria	1000	Conflict
1969–74	Sahel, W Africa	101	Drought
1972–73	Maharashtra, India	130	Drought
1972–75	Wollo and Tigray, Ethiopia	200–500	Drought
1974–75	Somalia	20	Drought and government policy
1974	Bangladesh	1500	Flood and market failure
1979	Cambodia	1500–2000	Conflict
1980–81	Uganda	30	Conflict and drought
1982–85	Mozambique	100	Conflict and drought
1983–85	Ethiopia	1000	Conflict and drought
1984–85	Darfur and Kardofan, Sudan	250	Drought
1988	S Sudan	250	Conflict
1990–2003	Iraq	200–1000	Sanctions
1991–93	Somalia	300–500	Conflict and drought
1995–99	North Korea	2800–3500	Flood and government policy
1998	Bar el Ghazal, Sudan	70	Conflict and drought
1999–2000	Ethiopia	20–98	Drought and conflict

Devereux, S. (2000). *Famine in the Twentieth century*, IDS working paper 105. Brighton: University of Sussex.

'right to food'. This is already an inalienable human right under international law, recognized in the Universal Declaration on Human Rights and the International Covenant on Economic, Social and Cultural Rights, but its practical application is still at an early stage of development. In 2004 the FAO Council adopted the Right to Food Guidelines but these are voluntary. Some activists have suggested that modern famines are always political to some extent and that it is therefore possible to argue legally that there are accountable parties who are liable, either for negligence or in the worst cases for genocide, requiring prosecution in the International Criminal Court. This has dramatically shifted the center of gravity of famine studies from 'what is the cause of famines?' to 'who benefits from famines?'. One possible crime might be famine denial. There was no word, for instance, from China during the Great Leap Forward (1958–61) to indicate that Mao's radical restructuring of the economy was so disruptive that it led to upward of 30 million deaths, one of the greatest famines in human history. In Sudan, on a much smaller scale, the government similarly failed to acknowledge a drought-related famine in 1984–85, a tragic mistake that cost a quarter of million people their lives.

P0100

Third, political economy interpretations of famine have tended to look at the dysfunctional role of market mechanisms (taxes, hoarding speculation, excess profits, market failure) or at the role of class, privilege, and repression in the global South. Increasingly, these factors have been tied into the processes of globalization, such as the terms of international trade or the geopolitical ambitions of the great powers. One of the best writers in this tradition, Michael Watts, has made a series of telling interventions. His work is especially important because of its contextual exploration of the nature of food insecurity. He has conceptualized this as a function of 'spaces of vulnerability' (Figure 1), based on: (1) entitlement and capability – market perturbations (economic exchange), coping thresholds (socioeconomics of resilience), and social security limitations (informal moral economies or formal welfare institutions); (2) empowerment and enfranchisement; and (3) political economy – class and crisis. Watts's conclusion is that we need a realist theory of famine as sketched in Figure 2. Political ecology is another version of this approach, representing in effect the environmentalism that was absent from Marxist geography until the 1990s.

P0105

Fourth, the FAD argument, that hitherto had seemed to be the commonsense explanation of famine, was challenged in 1981 by Amartya Sen. He observed that famines are often documented in places where food is available. His examples were the Bengal famine of 1943; Ethiopia, 1972–74; the Sahel, 1973; and Bangladesh, 1974. Sen's insight was that people's (individuals, households) access to food, their 'exchange entitlement', was what

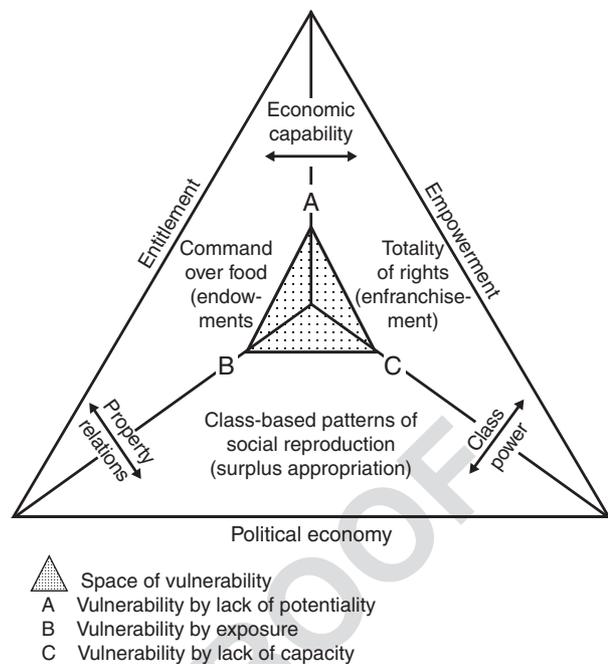


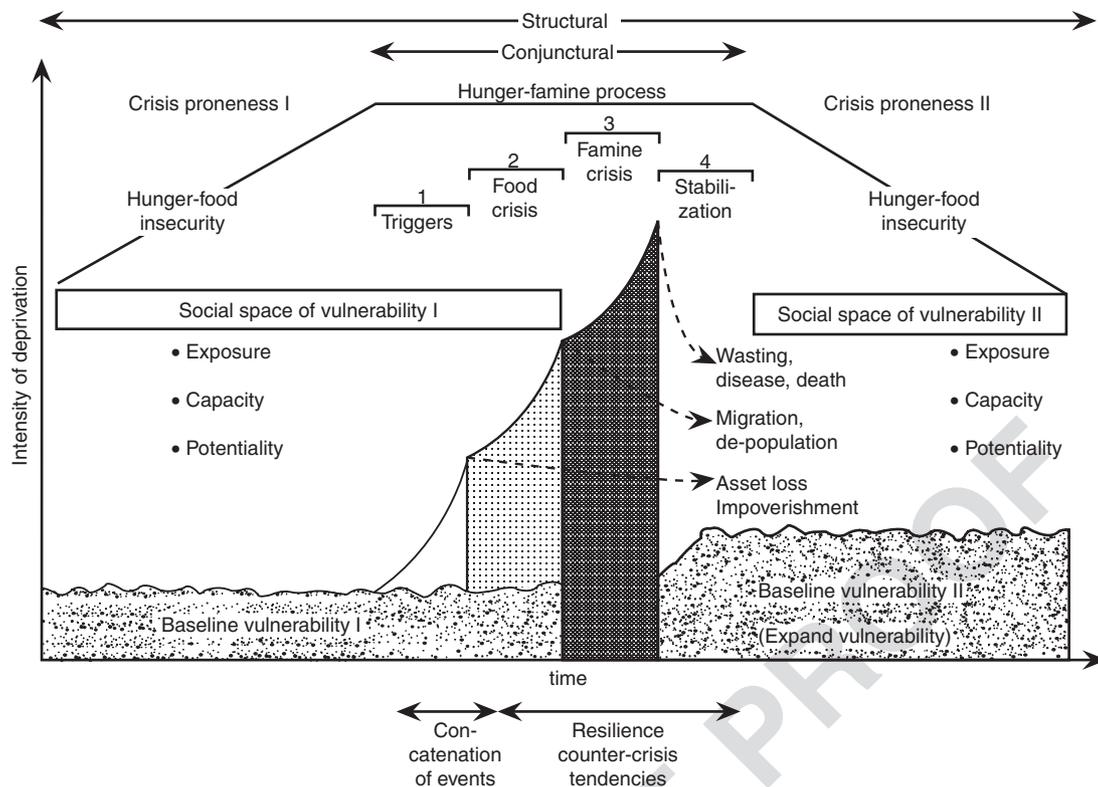
Figure 1 Reproduced from 'The space of vulnerability: the causal structure of hunger and famine' by Watts, M. J. and Bohle, H. G. in *Progress in Human Geography* 17, 43–67, Sage Publications 1993.

F0005

mattered and that this could be undermined by a failure of subsistence, a lack of bargaining power in a market, or the erosion of traditional community support mechanisms. Sen's work was influential and there followed a surge in micro-level empirical work that put flesh on the bones of his framework of analysis. This has shown that contingent reality is even more complex than he had imagined. Plausible though his case study analyses are, the evidence suggests that they work because they fit a particular type of famine in a particular socioeconomic context. In SSA, where migration to large feeding centers is a common feature of food emergencies, mortality tends to be less from starvation than hygiene-related infections in the camps such as diarrhea or contagious diseases like cholera. Here the poor and the better-off suffer together. Sen is most relevant to peasant societies with private property and some engagement with market-based exchange, but less predictive for precapitalist societies dominated by common property resources or for famine under socialism. He is at his weakest when the bedrock of his theory, legal-based entitlements, is flouted, as in times of civil conflict and war.

Sen's later work has argued that the presence of liberal democracy in a country is a powerful antifamine tool. The argument runs that effective political opposition and a critical media will hold governments and their agencies to account and that indifference to starvation, inefficiency in relief delivery, and the deliberate creation of famine conditions are, as a result, less likely. But does the

P0110



F0010 **Figure 2** Reproduced from 'The space of vulnerability: the causal structure of hunger and famine' by Watts, M. J. and Bohle, H. G. in *Progress in Human Geography* 17, 43–67, Sage Publications 1993.

evidence fit? The great famine in Ireland happened under the control of UK parliamentary democracy. India is lauded as the world's largest democracy and a miracle of multiculturalism, yet her accountable politicians have not systematically addressed their problem of malnutrition, with the result that 27% of the world's hungry live in that one country. Also, 70% of the nonpregnant women in India suffer with iron-deficiency anemia and 60% of preschool children have vitamin A deficiency. This is a wretched failure for the liberal developmental state. However, it is less the presence of a constitutional democracy that matters than the effective operation of institutions, coupled with the politicization of famine in a manner that commits politicians to an 'antifamine political contract'.

AIDS morbidity through a reduction in productive capacity, a rise in dependency ratios, and an increase in the burden of care for the sick. Often family decision makers are affected by the disease but it is their dependants, including a generation of orphans, who are most susceptible to malnutrition.

Second, there are hungry cities, where poor slum dwellers may not have the vegetable-growing and small livestock-keeping possibilities of their rural counterparts, and they are therefore vulnerable to price spikes and labor market imperfections in times of economic stress. An example that tipped over into urban famine was Antananarivo, the capital of Madagascar, in 1985–86. This was a famine hidden from the outside world by the government then in power, but its impact can be reconstructed from demographic data. Mortality increased especially amongst children and this coincided with a period of price instability in the staple commodity, rice.

Third, although there have been benefits of globalization, ranging from an expanded trade in foodstuffs and the creation of buffer stocks against times of famine, they have often been nullified by the presence of insurgencies and civil wars in many African countries. The typical modern African famine involves a military/political dimension that may have links to international geopolitics. An example is the 1998 famine in Bar el Ghazal, Sudan.

S0025 New Famines

P0115 Jenny Edkins has suggested that famine is 'produced' by modernity. It is not surprising that in the latest phase, globalization, we can see some new variants. The first is due to the erosion of capabilities and emergence of new vulnerabilities that has accompanied the AIDS epidemic. One estimate is that the economy of South Africa, for instance, is 22% smaller than it would have been without AIDS, and at least one recent famine was exacerbated by

P0120

P0125

Here the production and export of oil from the south of the country was the trigger for rebel groups to object to the exploitation of 'their' resources and for the government to reinvest in military conquest.

P0130 Finally, in Iraq there have been an estimated 200 000 to 1 million deaths attributable to what Haris Gazdar has called 'postmodern famine'. This is defined as "excess mortality in spite of protected food entitlements but due to non-food crises: notably the stresses of macro shocks on relatively sophisticated health and social welfare systems." Sanctions were imposed on Iraq by the UN in 1990, causing immediate problems in a country that had previously been dependent on imports for two-thirds or more of its food. This was a famine, in the broad sense, in a market economy that continued to function. The key to understanding this type of famine is that a country that was closely integrated into the global economy suffered a severe shock when that access (export of oil in return for food and manufactures) was cut off. Although the proximate cause was political, arguably the structure is similar to that of other economic crises, such as Indonesia (1997), Russia (1998), and Argentina (2001–02), where hunger-related morbidity and mortality increased far beyond the normal. Maybe this is a glimpse of one type of future famine.

S0030 **Famine Futures**

P0135 The first of the UN Millennium Goals is to halve hunger from 800 to 400 million by 2015. Will this step to utopia be achieved through developmentalism? The evidence since World War II has not always been encouraging but famine in its acute sense does now seem to be confined to Africa. The only recent aberration (1995–99) was in North Korea where an authoritarian and secretive regime presided over perhaps 3 million starvation deaths at a time of flood-induced chaos in their fragile rural economy. Lest complacency about world prospects sets in, we should note three points.

P0140 First, there is an industry of dire predictions about the outturn of global warming. Some of these involve a commentary about perturbations in the Asian monsoon or the spread of aridity in Africa and the Mediterranean, and the implication is of increased vulnerability in countries (such as India) that are densely populated. As the climate modeling becomes more sophisticated, a consensus is growing that the risk of famine will increase over the coming decades.

P0145 Second, who will feed China? This is a question posed by Lester Brown, a well-known pessimist about world population growth. He has moved on from the cruder realms of neo-Malthusianism to a new position that recognizes China's stunning economic success since the death of Mao and argues that it will need to import more

and more food in order to meet rising living standards and to plug shortfalls in its own production. With India and other parts of the global South likely to share in this new prosperity, we are invited to wonder whether ultimately there will be enough food in international trade to prevent famine elsewhere.

Both of these first two points may be contested but, third, there is no doubt that at the beginning of the twenty-first century there are more people dying of malnutrition than of famine. Many of the arguments raised in this article apply equally as well to the chronic food problems as they do the acute. Given the world community's very welcome new commitment (in principle) to food as a human right, what is needed is an ethical and legal geography of the extent to which this right is being flouted, directly and indirectly, by various stakeholders. Let us hope that the present century will be one, not just of liberal hand wringing about hunger, but of accountability for the famine crimes that are being committed everyday against the rights of the vulnerable and the powerless. In short, we need a repoliticization of famine. P0150

See also: Africa (00243); Aid (00076); Developmentalism/anti - post-developmentalism (00678); Human Rights (00785); Plant geographies (00579); Vulnerability (00129).

Further Reading

- Braun, J., von Teklu, T. and Webb, P. (1998). *Famine in Africa: Causes, responses, and prevention*. Baltimore, MD: Johns Hopkins University Press.
- Campbell, D. (2003). Salgado and the Sahel: Documentary photography and the imaging of famine. In Debrix, F. & Weber, C. (eds.) *Rituals of mediation: International politics and social meaning*, pp 69–96. Minneapolis: University of Minnesota Press.
- Davis, M. (2001). *Late Victorian Holocausts: El nino famines and the making of the third world*. London: Verso.
- Devereux, S. (1993). *Theories of famine*. Hemel Hempstead: Harvester Wheatsheaf.
- Devereux, S. (2000). *Famine in the twentieth century*, IDS Working Paper 105. Brighton: Institute of Development Studies, University of Sussex.
- Devereux, S. (ed.) (2007). *The new famines: Why famines exist in an era of globalization*. London: Routledge.
- de Waal, A. (1997). *Famine crimes: Politics and the disaster relief industry in Africa*. Oxford: James Currey.
- de Waal, A. (2005). *Famine that kills: Darfur, Sudan* (2nd ed.). Oxford: Oxford University Press.
- de Waal, A. and Whiteside, A. (2003). New variant famine: AIDS and food crisis in southern Africa. *Lancet* 362, 1234–1237.
- Drèze, J. and Sen, A. (eds.) (1990). *The political economy of hunger, Vol. II: Famine prevention*. Oxford: Clarendon Press.
- Dyson, T. and Ó Gráda, C. (eds.) (2002). *Famine demography*. Oxford: Oxford University Press.
- Eckins, J. (2000). *Whose hunger? Concepts of famine, practices of aid*. Minneapolis: University of Minnesota Press.
- Howe, P. and Devereux, S. (2004). Famine intensity and magnitude scales: A proposal for an instrumental definition of famine. *Disasters* 28, 353–372.

- Keen, D. (1994). *The benefits of famine: A political economy of famine and relief in Southwestern Sudan, 1983–1989*. Princeton: Princeton University Press.
- Sen, A. (1981). *Poverty and famines: An essay on entitlement and deprivation*. Oxford: Oxford University Press.
- Swift, J. (2006). Why are rural people vulnerable to FAMINE? *IDS Bulletin* 37(4), 33–40.
- Watts, M. J. (1983). *Silent violence: Food, famine and peasantry in Northern Nigeria*. Berkeley: University of California Press.
- Watts, M. J. and Bohle, H. G. (1993). The space of vulnerability: the causal structure of hunger and famine. *Progress in Human Geography* 17, 43–67.

Relevant Websites

- <http://www.fivims.net>
An Interagency Initiative to Promote Information and Mapping Systems on Food Insecurity and Vulnerability.
- <http://www.fews.net>
USAID Famine Early Warning System.
- <http://www.wfp.org>
World Food Program.

ELSEVIER FIRST PROOF