

Famine Datasets Methodological Annex

February 2025

The WPF Famine Datasets

We have compiled one main listing of famines and three supplementary ones.

The main dataset is a catalogue of famines and instances of mass starvation around the world since 1870 that are estimated to have killed 100,000 people or more. The dataset includes date, location, estimate for excess deaths, and causes (including proximate, underlying, and contributory, along with a classification of the role of political intent and the main immediate trigger).

There are three supplementary listings.

- A list of well-known famines that do not meet the 100,000 deaths threshold.
- A list of cases since 2014 for which the Famine Review Committee of the Integrated food security Phase Classification (IPC) initiative has assessed the evidence and considered to be close to meeting the IPC threshold for 'famine', along with Somalia in 2011 which was assessed using the same method.
- A catalogue of candidates for inclusion, about which we do not (yet) have sufficient information.

Purpose

Our rationale for compiling this updated and revisited catalogue is that it allows for the generation of high-level generalizations and descriptive statistics about famine, and provides a benchmark against which global statements about famines can be tested. For example, the data allow for the following broad statements to be made:

- The number and lethality of famines has declined over the last 100 years.
- The epicenter of famines has shifted from Asia and Europe to Africa and the Middle East.
- Most famines throughout the last 150 years have been associated with war.
- Climate factors, such as drought or desertification, rarely cause famine on their own without the presence of famine-conducive factors such as war or government policy.
- Population growth is not a factor in generating famine.

One reason for updating the dataset now is the tremendous growth of literature on historical famines over the past decade. Today, famine researchers have access to more and better data that enables a more robust understanding of famine than ever before. Our revised dataset contains 21 new entries—14 of which occurred in the 19th and 20th centuries—and revised mortality estimates for 22 entries. Contemporary research also sheds light on new understandings of historical famines, which has enabled us to expand the dataset to include more in-depth estimations for the causes behind each event.

The dataset is an invitation for scholars to make three kinds of contributions:

- Empirically, to improve the quality of our data, including the estimates for mortality and the accounts of the causes of specific famines.
- To make more evidence-based statements on factors associated with the decline and return of famines.
- Analytically, to explore hypotheses that relate the incidence and lethality of famines with economic and political data (e.g. food prices, political freedoms, armed conflicts).

The dataset presents a challenge to policymakers and humanitarian practitioners and advocates to apply evidence to claims about famine, with an appreciation for the extent to which discourse around famine drives policy around famine. For example:

- Statements that the world faces an unprecedented scale of mass death in famines can be readily refuted.
- Statements that the route to preventing famines lies in (one or more of) improved agricultural production, cheaper food or more food aid can be easily challenged.

As will be clear from this Annex, compiling an authoritative listing of famines and famine mortality over the last 150 years faces major methodological challenges. Transforming this list into a dataset that can be utilized for systematic analysis presents further obstacles. Datasets normally contain figures derived through methods that are consistent and rigorous across all data points. The insuperable difficulty with historic data on famine mortality is that the methods used for deriving estimates are inconsistent, using different (and often implicit) assumptions, and of highly different degrees of reliability. Moreover, it is extraordinarily difficult to compare estimates for excess mortality across different populations with different baseline mortality levels. There is simply no straightforward way to compare estimates for excess deaths made by colonial administrators in the 19th century, based on crude enumerations of population losses, with demographic calculations in the early 21st century based on sample surveys by humanitarian agencies.

Data quality and collection has improved over time though not as consistently as one would have hoped. There is, for example, a remarkable lapse in studies of famine mortality from the 1960s to the 1990s, especially in Africa. In 1993, John Seaman lamented: "Over the last 20 years, billions of dollars have been spent in attempting to prevent famine deaths in Africa. It is surprising that relative to the substantial spending aimed at saving lives, very little is known about African famine mortality, and there remains much confusion of view about its scale

and importance.”¹ The methods used to estimate aggregate deaths in famines in Africa in the 1970s, 1980s and 1990s were often no better, and sometimes worse, than a century earlier. Improvements in the early 2000s, such as for Somalia,² have been difficult to replicate or sustain. Part of the difficulty is access and insecurity. Part of it is the politicization of famine.

There’s a general rule of thumb: the worse the humanitarian emergency, the worse the data. That holds for the present as well as the past. Epidemiologists are compelled to use a wide range of methods, creatively adapted to situations in which reliable data are extremely scarce, to produce estimates for mortality in contemporary crises. Cases in point include Ethiopia,³ Sudan⁴ and Yemen.⁵ In these cases, as in Gaza, some infer from the absence of evidence regarding famine to evidence for the absence of famine.

These problems are further compounded by the challenges of determining the boundaries of the category “famine” itself (see below), and what counts as mortality arising from mass starvation.

We therefore caution that this listing of “great famines” (see below) should be seen more as a catalogue than a dataset, and that only general conclusions should be drawn. However, the data nonetheless permits us to draw some high-level conclusions with confidence.

Framework: What Counts as ‘famine’

There are diverse definitions of famine, focusing on causes, processes and outcomes. Our basic criterion for inclusion is mass mortality attributed to mass starvation, which in turn is defined as mortality arising from the destruction, deprivation or loss of objects and activities required for survival. This includes three kinds of events.

*First are events conventionally defined as famine, usually because the overall driver is a food crisis as such, whether this is a food availability crisis or a food entitlement collapse.*⁶ In such cases, mass mortality is driven not only by a large aggregate of cases of individual starvation,

- 1 Seaman, J. 1993. “Famine mortality in Africa.” *IDS bulletin* 24.4: 27-32, at p. 27.
- 2 Checchi, F., and W. Courtland, 2013. ‘Study Report: Mortality among populations of southern and central Somalia affected by severe food insecurity and famine during 2010-2012.’ Rome, FAO. <https://reliefweb.int/report/somalia/mortality-among-populations-southern-and-central-somalia-affected-severe-food>
- 3 Nyssen J., et al., 2023. ‘Documenting the civilian victims of the Tigray war.’ London, Royal Holloway Centre for International Security and Every Casualty Counts, Webinar 19 January 2023. <https://www.youtube.com/watch?v=J48EHrbcsBw>
- 4 Clingendael Institute, 2024. ‘From Hunger to Death: An estimate of excess mortality in Sudan, based on currently available information,’ The Hague, May.
- 5 Checchi, F., M. Alhaffar, E. S. Koum Besson, C. R. McGowan, 2023. ‘Estimation of Crisis-Attributable Mortality in Yemen: Evidence from several studies, Briefing Note,’ February. <https://www.lshtm.ac.uk/media/70581>; Guha Sapir D., et al. 2022. ‘Civil War and Death in Yemen: Analysis of SMART survey and ACLED data, 2012-2019.’ *PLOS Global Public Health*. Aug 8;2(8):e0000581. doi: 10.1371/journal.pgph.0000581.
- 6 Sen, A., 1981. *Poverty and Famines: An essay on entitlement and deprivation*, Oxford: Clarendon Press.

but also by the health crises engendered by population disruption.⁷ Together, these constitute “mass starvation attributable mortality.”

Second are cases of mass starvation driven by war, genocide or extermination, including forced displacement, expulsion and ethnic cleansing. These are cases of first and second-degree “famine crimes”⁸ and cases of mass starvation crimes.⁹ The definition of the war crime of starvation in international criminal law is “depriving [civilians] of objects indispensable to their survival,”¹⁰ which extends beyond food to include water, health care, sanitation, shelter and other essentials, and thereby encompasses the elements of health crisis induced by famine. The figures for mortality in these cases include those attributable to individual starvation and health crises, but excluding deaths caused by direct violence.

The third category includes cases of massive, prolonged complex humanitarian emergency.¹¹ The drivers of crisis and of mortality include violence, disease, displacement and malnutrition. They are also characterized by partial or complete state collapse and social breakdown, in which objects indispensable to survival are destroyed or abandoned—i.e. we use the broader concept of “mass starvation” and related mortality derived from the first two categories. The term “humanitarian emergency” is implicitly tied to a notion of what humanitarian agencies should do to prevent the situation from crossing a threshold into famine or catastrophe.¹² As the cases in this catalogue have, by definition, crossed this threshold, we categorize them as “societal catastrophes.” The excess mortality estimates used are for all causes other than direct violence.

In all cases, famines and mass starvation are distinguished from chronic poverty insofar as they are distinct episodes of calamity and collapse, rather than a steady state.

Identifying Individual Famine Events or Episodes

The decision over what counts as a single famine event or episode is not straightforward and contains an element of arbitrariness.

7 Akroyd, W.R., 1971, 'Definition of Different Degrees of Starvation,' in Gunnar, B., Y. Hofvander, & B. Vahlquist. (eds.) *Famine: A symposium dealing with nutrition and relief operations in times of disaster*. Stockholm: Swedish Nutrition Foundation, pp. 17-24; Dyson, T. & Ó Gráda, C., (eds.), 2002. *Famine demography: perspectives from the past and present*. Oxford: Oxford University Press. De Waal, A., 1989. 'Famine mortality: a case study of Darfur, Sudan 1984–5.' *Population Studies*, 43(1): 5-24.

8 Marcus, D., 2003. "Famine Crimes in International Law". *American Journal of International Law*, 97.2, 245-281.

9 Conley, B. & de Waal, A., 2019. 'The Purposes of Starvation: Historical and contemporary uses.' *Journal of International Criminal Justice*, 17(4): 699-722.

10 Rome Statute of the International Criminal Court, Article 8(2)(b)(xxv).

11 Värnyen, R. 2000. 'Complex Humanitarian Emergencies: Concept and issues,' in W. Nafziger, F. Stewart & R. Värnyen (eds.) *War, Hunger and Displacement: The origins of humanitarian emergencies, Vol. I: Analysis*, Oxford University Press, pp. 43-89.

12 Ophir, A., 2010. 'The Politics of Catastrophization: Emergency and exception,' in D. Fassin and M. Pandolfi (eds.) *Contemporary States of Emergency: The politics of military and humanitarian interventions*, New York: Zone Books, pp. 59-88.

The criteria for an individual entry are that should be an episode with a distinct location or victim group, time period, cause, and attributable mortality.

Some large and complex famines are classified as single events, for example the 1928-1930 Chinese famine. Some famines that cross national boundaries are combined into single events, such as the famine on the Red Sea coast of the Horn of Africa in World War One, the Sahelian famine of 1969-73, and the starvation of Japanese soldiers in the Philippines and Indonesia in World War Two.

Others, such as the assemblage of cases of mass starvation in eastern Europe and the Soviet Union, have been broken down into distinct events—starvation in Poland, forced starvation of Soviet PoWs, genocidal starvation of Jews, the siege of Leningrad, famine associated with the Hungerplan across German-occupied lands, excess hunger deaths behind Soviet lines, and starvation of German PoWs in Soviet labor camps.

The formulation that allows for famines to be defined by either locality or victim group provides for cases involving the mass deportation of a particular target group across certain territories (e.g. the Armenians, Stalin's deportees), or the selection of that group in various locations across a territory (Jewish ghettos in Poland and Ukraine in World War Two, prisoner of war camps or labor camps in various cases).

Unfortunately the quality of data in our sources do not always allow us to make the necessary distinctions. Consequently, the number of famine episodes is a less reliable measure than the estimates for famine mortality. We note that, since World War Two, there have been far fewer cases of multiple overlapping famines.

Mass Starvation-Attributable Deaths

It is important to note the distinction between deaths individually attributable to starvation and those attributable to *mass* starvation. When a collectivity of persons is subjected to deprivation *en masse*, the increase in mortality is driven both by malnutrition and by health crisis consequent on the disrupted human ecology (displacement, migration, overcrowding, deterioration in water and sanitation, lower vaccination rates, decline in health services, etc.) Mass starvation is not simply individual severe acute malnutrition aggregated, and mortality attributable to mass starvation or famine is therefore a more expansive category than malnutrition-attributable mortality.

We will be writing more on this topic in future papers.

Taking a Magnitude Threshold Approach

Famines can be identified and assessed on the dimensions of severity, magnitude and duration. Historians of famine and demographers' preferred method to determine famine magnitude is to utilize demographic data to make comparisons against a population baseline and an estimated death rate. For our purposes, we have used magnitude, namely the aggregate

number of excess deaths, to determine which famines to include in the catalogue. We have utilized a numerical threshold (e.g. the number of overall deaths surpassing 100,000) to determine magnitude because there is not enough demographic research available to enable an approach based on proportionate increase in death rates.

The Question of Duration

The issue of famine duration, and relatedly, trajectories into and out of mass starvation mortality, is as yet little-studied. In this catalogue, we distinguish between two kinds of duration. The first is an extended catastrophic event involving either one long pulse in heightened mortality or several overlapping pulses, after which crude death rates decline to a level approaching the baseline. The second is a long-term increase in baseline crude death rate, or a plateau in a previously declining baseline crude death rate. On the basis that a famine is a time-bound event, we do not include the latter. However, the boundary between the two may be unclear.

The duration of different events in the catalogue varies. The start and end dates for each famine are based on the best existing research surrounding that event rather than on a predetermined limit. In some instances, events that might preferably be considered as separate famines are combined into one prolonged event because more reliable estimates exist for these famines as a combined event than for the individual episodes. While taking these approaches ensures that our dataset most accurately reflects existing research, it also means that some famine events qualify based on the 100,000 threshold over many years whereas others occurred over much shorter and more intense periods, making comparisons challenging.

Excess, Aggregate and Indirect Deaths

Where possible, we have included figures for excess deaths, namely deaths above the baseline. This creates challenges for cases in which the baseline crude mortality rate is unknown or disputed. Some methods for imputing mortality also generate figures for aggregate deaths. In the last twenty years, efforts to assess the wider impacts of wars or armed violence have also utilized the concept of 'indirect deaths', namely deaths that are not from violent trauma, that are attributable to the wider effects of that violence. Different studies have led to widely varying ratios between direct and indirect deaths.¹³ We have drawn on ratio methods estimations in seeking to triangulate estimates for cases such as Syria.

13 Geneva Declaration Secretariat, 2015. *Global Burden of Armed Violence 2015: Every Body Counts*. Cambridge University Press; Jawad, M., Hone, T., Vamos, E. P., Roderick, P., Sullivan, R., & Millett, C., 2020. 'Estimating Indirect Mortality Impacts of Armed Conflict in Civilian Populations: Panel regression analyses of 193 countries, 1990-2017' *BMC Medicine*, 18(1), 1–11; Roberts, L., Zantop, M., Ngoy, P., Lubula, C., Mweze, L. and Mone, C., 2003. 'Elevated Mortality Associated with Armed Conflict—Democratic Republic of Congo, 2002.' *JAMA: Journal of the American Medical Association*, 289(22); Sevall, S., 2023. 'How Death Outlives War: The Reverberating Impact of the Post-9/11 Wars on Human Health,' Brown University, Watson Institute, <https://watson.brown.edu/costsofwar/files/cow/imce/papers/2023/Indirect%20Deaths.pdf> ; Spagat, M., Mack, A., Cooper, T., & Kreutz, J. 2009. Estimating War Deaths: An Arena of Contestation. *Journal of Conflict Resolution*, 53(6), 934-950.

Why 100,000?

The Howe and Devereux famine scale defines a “great famine” as one in which 100,000 people or more perish. The main reason for choosing the 100,000 threshold for this dataset, as against a lower number, is manageability. If a criterion of 10,000 deaths were used, the number of famine and mass starvation events that we would need to include would be many times greater. It would be very likely that numerous historic famines would escape our notice. The difficulties of ascertaining accurate figures would also be much greater.

Severity vs. Magnitude

The magnitude assessment does not take account of the size of the affected population, meaning that more severe famines afflicting smaller populations are not included. Some such cases are:

- The genocidal starvation of the Herero and Nama in German South West Africa in 1904. Estimates for the death toll range from 40,000 to 80,000, representing the absolute majority of the population.<?>
- The Netherlands ‘Hunger Winter’ of 1944-45, which killed 23,000 people.
- A series of repeated famines on the archipelago of Cape Verde, related to drought and subsistence crises, with high mortality rates among a small population.<?>
- The ‘micro-famine’ in Tikopia, in the Solomon Islands, in 1953, documented by the anthropologist Raymond Firth, which killed 280 people out of a total population of 1,753.<?>
- The famine in Karamoja, Uganda, in 1980, which killed between 20,000 and 50,000 people, up to 21 percent of the population, was very intense but the affected population was relatively small.<?>

We have included known famines which do not reach the 100,000 threshold in a ‘separate events’ sheet to ensure their occurrence is reflected in our research. These events are not included in the main dataset, and therefore their data would not be included in any related analyses.

<?> Schaller, D., 2010 “From Conquest to Genocide: Colonial Rule in German Southwest Africa and German East Africa”, in A. Dirk Moses (ed.), *Empire, Colony, Genocide: Conquest, Occupation and Subaltern Resistance in World History*, Berghahn Books. 296-324.

<?> Brooks GE. 2006. ‘Cabo Verde: Gulag of the South Atlantic: Racism, Fishing Prohibitions, and Famines.’ *History in Africa*, 33, 101-135; Keese, A. 2012. ‘Managing the Prospect of Famine: Cape Verdean officials, subsistence emergencies, and the change of elite attitudes during Portugal’s late colonial phase, 1939–1961.’ *Itinerario* 36.1, 49-70.

<?> Firth, R., 1959. *Social Change in Tikopia: Re-study of a Polynesian community after a generation*. London: Routledge.

<?> Biellik, R., & Henderson, P., 1981. ‘Mortality, nutritional status, and diet during the famine in Karamoja, Uganda, 1980.’ *The Lancet*, 318(8259), 1330-1333.

Distinctions Between this Dataset and IPC-Designated Famines

The Integrated Food Security Phase Classification (IPC) Famine Review Committee, which is the pre-eminent global authority for “declaring famine”, has convened to consider 20 cases of potential famine since 2014. (This includes the IPC assessment of the 2011 famine in Somalia.¹⁸) Some cases it has considered pass the 100,000 deaths threshold, such as Nigeria, Somalia and South Sudan, and thus are included herein. Other cases do not, such as Madagascar and Gaza; these cases are however included in our separate events catalog. Note that the IPC does not use the magnitude metric for designating famine, because (a) it uses location-specific severity and (b) its purpose is to warn of likely famine in order to elicit a response that would prevent high levels of excess deaths. In other words, the success of the IPC is not measured by the number of times it identifies a possible famine that then happens, but by the instances in which famines are feared but then don’t transpire.

We have a separate listing of the cases where the IPC’s Famine Review Committee has considered that IPC phase 5 ‘Famine’ is happening, has happened, or can be projected.

One advantage of the ‘great famine’ threshold approach is that it enables this dataset to include some events which have not traditionally been considered famines or would not meet the IPC criteria for famine, such as protracted crises where elevated malnutrition death rates occur for several years, but no particular location meets the intensity criteria (such as DRC and CAR as described below). The threshold approach opens the door for consideration of these events through a famine lens, in accordance with their high levels of mortality. Relatedly, some events are recorded differently in our dataset from IPC official famine designations in line with their mortality estimates; for example, our dataset reflects the South Sudan protracted crisis from 2014-2018, which was only designated a famine by the IPC for a brief window in 2017.

We intend to develop the dataset to include estimates of the total population of the affected territory and estimates of the duration of the crisis. This will allow for more comparative analysis of the varying intensity of famines.

Lowest Credible Estimate or Most Credible Estimate

In general, higher estimates tend to be less reliable than lower ones, as some high-end estimates are wildly inflated. For this reason, the previous dataset published by the World Peace Foundation in 2016 used the criterion of “lowest credible estimate.” Where there is a single estimate range, we still use this. But where the most credible estimate is not the lowest, we have gone with that. Additionally, in some places, we have used medians to reflect a range of credible estimates. Ideally these median estimates are based on an estimated range from the same source, but we have also used medians drawn from different sources where multiple credible estimates exist without one offering more clear evidence than another.

18 Food Security and Nutrition Analysis Unit—Somalia, 2011. ‘FSNAU Technical Series Report No VI. 46: Food Security and Nutrition Analysis Post Gu 2011,’ <https://reliefweb.int/report/somalia/fsnau-technical-series-report-no-vi-46-food-security-and-nutrition-analysis-post-gu>

Shifting from lowest credible estimate to most credible estimate has led to some changes in entries in the catalogue. For example:

- The Great Leap Famine in China is now recorded with a mortality estimate of 36,000,000, revised upwards from 25,000,000 in the previous dataset, in line with authoritative research.¹⁹
- The Sahel famine of 1969-73 is now included, because the best estimate (by the CDC) was for 101,200 excess deaths among nomadic communities.²⁰ The estimate for excess deaths among the sedentary population remains below the threshold.
- The Ethiopia famine of 1983-85 had estimates for excess mortality ranging from 600,000-1 million. The previous dataset used 600,000. We have now taken a median figure of 800,000.
- Starvation in Biafra, the separatist enclave that fought for independence from Nigeria, in 1968-70. Figures for this remain extraordinarily variable and controversial. A careful review of sources produced a range of credible estimates from 600,000 to 2 million,²¹ with outliers ranging from 100,000 to 5 million.²² We settled on 1.3 million as the median of the credible figures, though we worry that this is based on inadequate data.

Placeholder Estimates

In a number of cases, it is indisputable that malnutrition and starvation have caused deaths that surpass the 100,000 threshold, but no authoritative estimates are available. There are several historic cases in the catalogue, for which we have put a placeholder estimate of 100,000+ to ensure that they are recognized in the listing. We will continue to explore these cases with experts.

Start Date of 1870

The start date for the catalog is inevitably arbitrary, based on a judgement about the quality of information available. There are good data for famines in Europe and South Asia throughout the 19th century, variable data for China, and very little for sub-Saharan Africa. One reason for not including the 1860s is that the single largest mass mortality event of the decade, indeed of the entire century, was the Taiping Rebellion in China. Estimates for the mass starvation mor-

19 Jisheng, Y., 2012. *Tombstone: the great Chinese famine, 1958-1962*. Macmillan.

20 Sheets, H., & R. Morris. 1974. *Disaster in the Desert: Failures of International Relief in the West African Drought*. Washington: Carnegie Endowment for International Peace.

21 St Jorre, J. 1972. *The Nigerian Civil War*. London: Hodder & Stoughton; Gans, Bruno. "A Biafran relief mission." *The Lancet* 293, no. 7596 (1969): 660-665; Gould, I. 2012. *The Biafran War: The Struggle for Modern Nigeria*. London: IB Tauris; Harneit-Sievers Axel. [Review of:] Michael Gould, *The Struggle for Modern Nigeria: the Biafran War 1967-1970*. *Africa*. 2014;84(2):343-344; Ifekwunigwe, Aaron E., 1971. 'Recent Field Experiences in Eastern Nigeria (Biafra),' in Blix, G., Y. Hofvander, & B. Vahlquist. (eds.) *Famine. A symposium dealing with nutrition and relief operations in times of disaster*. Stockholm: Swedish Nutrition Foundation.

22 Hunt, David, 1990. *Memoirs: Military and Diplomatic*, Trigraph Ltd; Wiseberg, Laurie, 1975. 'The Statistics Jungle: Measuring War, Plague, Fire and Famine.' *Society*, July/August, 53-61.

tality associated with the rebellion and its suppression run into the tens of millions. As more reliable demographic figures become available, we would seek to include these.

There are still significant data gaps for 1870s and 1880s. For example, the climatic adversities of 1884-85, caused by the eruption of Mt Krakatau in Indonesia, affected a number of countries around the Indian Ocean, from the Philippines²³ to East Africa, and likely killed many.²⁴

Contemporary events where prolonged periods of heightened mortality have ended, but where humanitarian crises are ongoing, are marked with an asterisk.

Newly-Excluded Cases

The following cases were included in the 2016 dataset but excluded from the update:

- Brazil 1896-1900. The original inclusion was based on sources that appear to be erroneous. Reports of famine were cited by Mike Davis²⁵ but the original source is not reliable.
- Hunan, China, 1929. This famine, with a reported mortality of 2 million, was included on the basis of several references, but none of them pointed to original sources.²⁶ The error appears to be a conflation with the contemporaneous famine in north-west China, including the province of Henan, that is estimated to have killed 10 million.²⁷
- Rwanda 1943-44. The original inclusion was based on sources that appear to be erroneous, conflating the affected population with the mortality estimate.
- Iraq 1991-98. A recent assessment of the demographic figures for Iraq in the 1990s by Tim Dyson and Valeria Cetorelli has found that the estimates for excess deaths in the prior dataset are inflated.²⁸

Attributing Causes

Our dataset includes the following three causative elements: immediate, contributory and structural. These have been derived from synthesizing the academic literature. The causative elements that we have highlighted are drawn from the reviewed literature. In addition to providing further insight into the nature of each famine, mass starvation episode or societal catastrophe, the different cause labels are intended to serve as searchable codes for analytical

-
- 23 De Bevoise, K., 1995. *Agents of Apocalypse: Epidemic disease in the colonial Philippines*. Princeton University Press.
- 24 Rockel, S. J. 2022. "A Forgotten Drought and Famine in East Africa, 1883–1885." *Droughts, Floods, and Global Climatic Anomalies in the Indian Ocean World*. Cham: Springer. 289-343.
- 25 Davis, M., 1999. *Late Victorian Holocausts: El Niño famines and the making of the Third World*, London, Verso.
- 26 Devereux, A, 2000. "Famine in the Twentieth Century," University of Sussex, IDS Working Paper 105; Ó Gráda, C. 2009. *Famine: A short history*. Princeton, N.J: Princeton University Press: p.251.
- 27 Li, L.M. 2007. *Fighting Famine in North China: State, Market and Environmental Decline, 1690s-1990s*. Stanford: Stanford University Press: p. 303-307.
- 28 Dyson, T., & V. Cetorelli, 2017. "Changing Views on Child Mortality and Economic Sanctions in Iraq: A history of lies, damned lies and statistics." *BMJ Global Health* 2.2: e000311.

purposes, aimed at making the dataset as functional and usable for scholars as possible. As such, they are broadly reflective of the causes described in existing literature but not intended to represent the relationship between the three causal layers or describe all causes behind each event.

- Immediate or trigger factors. These are the short-term causes.
- Contributory factors. These are factors that allowed famine to develop when it could have been prevented.
- Structural causes. These are enduring factors that create vulnerability to famine.

The causes are listed and tallied according to a broad umbrella term, followed by additional descriptors, including direct effects, specific tactics, and names of perpetrators where relevant. The listing of these causative elements permits us to count the numbers of famines (and their lethality) in which different factors are mentioned.

We have simplified the causes into a four-fold categorization of the “main trigger.” The four are: climatic adversity, government policies, armed conflict and genocide. We emphasize that these are simplifications. In particular, every case of climatic adversity also has important political, military and economic policy components. None are solely “natural disasters.” The El-Niño related famines of the late 19th century were triggered by drought but the scale of hardship and the targeted nature of the deprivation were all caused by the context of imperial conquest. The immediate trigger for the 1984-85 famine in Sudan was drought, but against the backdrop of a highly extractive political economy.

Only in relatively few cases is the categorization controversial. One historical example is the 1932-33 famine in Ukraine, known to Ukrainians as the Holodomor, and attributed by many scholars to Stalin’s genocidal intent. Soviet scholars called it the “common tragedy” and attributed it to mistaken government policies without genocidal intent. The controversy is unresolved. We lean towards the “genocide” classification. More recent cases of controversy are the massive humanitarian emergency in Darfur in 2003-05 and the famine in Tigray in 2020-22, both of which are sometimes attributed to war, sometimes to genocide. The scholarly consensus for Darfur is “genocide”. The Tigray case awaits further research, and following the precautionary principle we have described the cause as “armed conflict.” This may change.

In addition, we have kept the element of “faminogenic category” drawn from David Marcus’s four-fold classification of “famine crimes”.²⁹ The classification is a subjective one based on the literature. The principal reason for keeping this is that “first degree famine crimes”, defined by Marcus as when “Governments deliberately use hunger as a tool of extermination to annihilate troublesome populations,” deserve a listing of their own. There are, however, difficult and controversial decisions for determining the boundaries between Marcus’s categories.

All of these causal elements are open for review by historians and political scientists. As a whole, the catalogue is intended to be treated as a live document. Its data and analysis, and the methodological choices we have made in its preparation, are open for the input of famine experts.

29 Marcus, D., 2003. “Famine Crimes in International Law”. *American Journal of International Law*, 97.2, 245-281.



**World Peace
Foundation**

World Peace Foundation
at The Fletcher School, Tufts University
114 Curtis Street
Somerville, MA 02144

(617) 67-2255

worldpeacefoundation.org