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# Why Are Famines Difficult to Predict?

Michael H. Glantz

**Given the complex interactions between climate, society, and government, forecast systems have great difficulty in achieving their goals.**

Since the earliest times, people have been fascinated by the prospects of forecasting future events. Which army will win a battle? Will drought occur this year? Will there be an economic recession? Will it rain this weekend? Will a volcano erupt? When will the next earthquake take place?

Some forecasts of future events, however, are more crucial to society than others. Forecasts of life-threatening situations obviously take precedence over others. And most recently, forecasting famines has become a particular focus of attention.

The Ethiopian famine of 1984-85 and the apparent failure to forecast it heightened empha-

sis on the importance of famine early warning systems to humanitarian responses. If one could forecast the emergence of famine or its precursors, action could be taken to avoid the actual outbreak of famine.

Interest in famine early warning systems is not new. India has had famine codes since the 1870s; and the Sudan had them in the 1920s. Why, then, are societies still seeking to understand this age-old process? Why do we still have famines, given the great technological and industrial developments of the past few centuries? Of the 25 officially designated droughts in sub-Saharan Africa in the early 1980s, why did five of them still result in famines?

In fact, it was the devastating impact of famine in Ethiopia in the early 1980s that sparked resurgent interest in famine prevention through forecasting. This interest was generated less by official government concern

than by citizen responses in developed countries. Despite pleas for food assistance by the Marxist Ethiopian government's Relief and Rehabilitation Commission (RRC) over a period of a few years, little assistance was forthcoming from the international donor community. Only after a BBC camera crew filmed the horrible conditions in the Korem refugee camp located in north-central Ethiopia, and released it to the world media in October 1984, did people everywhere raise pressure on their governments to respond to the emergency.

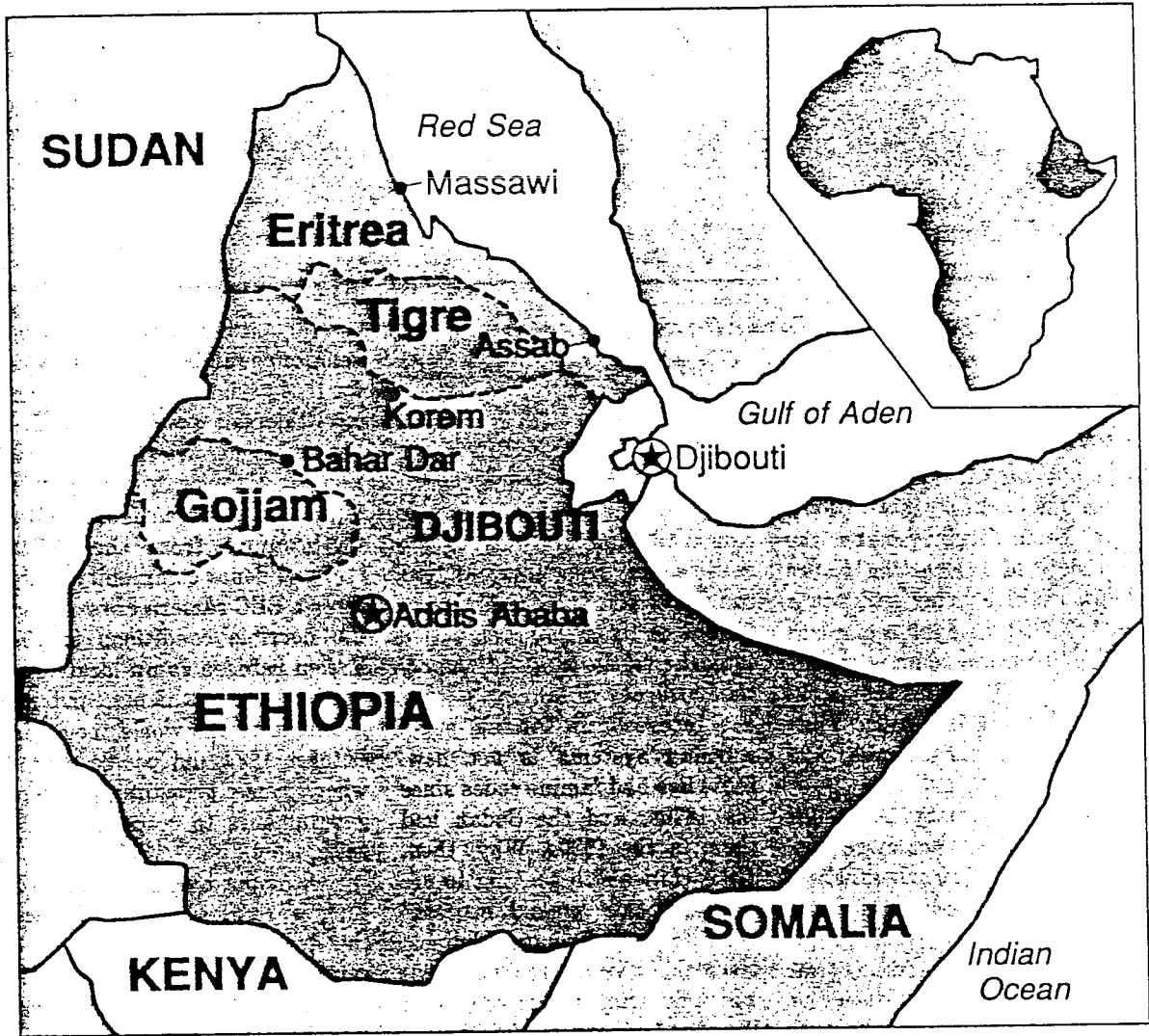
Ethiopia has had a formal early warning system ever since the devastating famine of the early 1970s, which led to the military's overthrow of Emperor Haile Selassie's regime. Using the lack of responsiveness by the Selassie government to the victims of drought and famine as an excuse, a Marxist faction took power and jailed the emperor, who died in captivity in 1975.

As a first step, the new military government established a commission to investigate the famine and the role of the imper-

■ *An Ethiopian child receives her daily milk ration during the severe famine of 1985 at a refugee camp near Wad Kowli, Sudan. How useful are nutritional indicators for famine early warning?*

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ial government in it. Another early step was to establish the RRC, and within it, an early warning system. Many have come to agree that, despite its shortcomings, it is among the best such systems in sub-Saharan Africa. One of the weaknesses of the RRC, however, is that it is under the con-

trol of a Marxist regime, while the international food donors are industrialized noncommunist states. When, in 1983 and 1984, the RRC appealed to the international community for assistance, their pleas were met with skepticism. The Marxist government was spending huge sums celebrating its 10th anniv-

ersary in power. At the same time, the government was engaged in an internal war with liberation movements in the northern provinces of Eritrea and Tigray. Donor countries reasoned that withholding grain from Ethiopia might make its government fall. Donors also feared that if Ethiopia were giv-

*Today a different ethic prevails, both within Ethiopia and in the international community of food donors.*

en relief grain, the government would divert the grain to their army and it would not reach the targeted populations in the famine-prone parts of the country.

Today a different ethic prevails, both within Ethiopia and in the international community of food donors. Ethiopia is more receptive to food aid from non-communist countries (the major donor being the United States) and has shown a greater willingness to accept donor restrictions on the transport and use of that aid. The Western donors, for their part, are less reluctant to assist Ethiopians with their short- and long-term food problems, realizing that the ultimate victims of famine in that country have been apolitical peasants trying to survive not only the vagaries of weather but also the plans of the military government. Herein lies the central reason for the renewed interest in establishing, in a spirit of cooperation, a reliable and credible Ethiopian early warning system. But with so much attention on the politics surrounding Ethiopian famines and responses to them, little attention has been focused on the question of



whether such systems can work. What are the constraints that restrict their reliability, timeliness, and credibility?

#### **Process versus Event**

Famine has scores of definitions, and how we view them determines how, when, and even whether we might identify a famine. Some people, such as those responsible for releasing

grain from warehouses in donor countries, tend to view famine as an event. They require hard evidence or quantitative indicators to release emergency grain shipments. Their indicators include the number of deaths, the number of people in an emergency

■ *Bringing firewood to market at Bahar Dar. Considerable human energy is expended in a daily search for fuel to cook the evening meal.*

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feeding center, or whether mass migrations are taking place in the countryside.

Others, such as those who deal with nutritional problems, see famine in a totally different light. They consider famine to be a process and include pre-famine

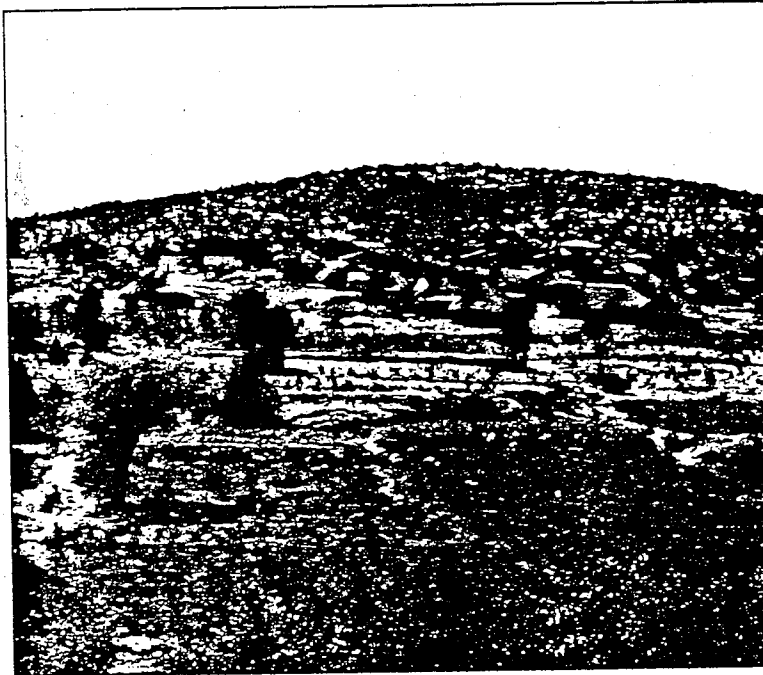
consider different indicators to be important, including reduced crop yields, increased prices for grain, declining nutritional status of infants, reduced rainfall, the sale of personal items (jewelry, cooking utensils), and the increasing dependence on "famine"

sibility of an early identification and an early response.

**How Early Is Early?**

Another issue that must be addressed is the timeliness of response. Clearly, by the time large numbers of people are starving or are appearing in emergency feeding centers, it is often too late to prevent additional deaths or migrations. On the other hand, it is too sweeping a warning to say that any country or region that is prone to drought and is plagued by a confounding factor affecting food production (e.g., internal war, pest outbreak) is at high risk of famine. Thus, it is important to determine how early is early in this context. An operational definition of early may change over time as situations within stricken countries and in the international community change. Moreover, relief workers need to know how much time is needed to realize that a famine situation is emerging and ship grain to the at-risk populations in distant lands—not just to the ports at Assab, Massawa, or Djibouti but into the isolated villages in the interior of the country.

In Ethiopia at any given time there are about a dozen early warning systems in operation, some formal and others informal. The formal ones monitor several key indicators of famine on a regular basis. These are more sophisticated, scientific (i.e., more dependent on quantitative indi-



conditions in their definitions of famine. They tend to sound alarms early in the process, so that the last stages of the famine process—mass starvation and death—can be averted. They

foods consumed only under duress.

Thus, when someone in the field suggests that a famine is emerging, and someone in Washington, Paris, or London wants a "body count," they are not communicating about the same phenomenon. The first issue that must be resolved is the need to broaden the definition of what constitutes a famine. For an early warning system, the broader the definition, the better the pos-

■ *Through government intervention, farm families are brought together in villages. The system allows better administration of some services but may make farming itself more difficult and less productive.*

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*One must distinguish between meteorological and agricultural droughts.*

cators), and better funded. The informal ones focus on a few indicators of interest to the goals of their supporting organizations. Save-the-Children-UK, for example, monitors the nutritional status of infants; the National Meteorological Service Agency monitors rainfall; the Ministry of Agriculture and the UN Food and Agricultural Organization (FAO) monitor acres planted as well as crop yields; and the Central Statistics Office maintains national and regional food balance sheets.

Often there is pressure to save resources by having only one early warning system, with other systems usually seen as competing for scarce resources and the attention of government leaders. Yet additional early warning systems can serve to corroborate early warnings, thereby reinforcing the credibility of the national (e.g., RRC) early warning system. Multiple systems can provide amplification, not confusion.

Many analysts tend to rely only on quantifiable indicators of famine: nutrition, prices in the marketplace, rainfall, acres planted, crop yields, and so forth. Yet, qualitative indicators, including anecdotal information, may also be important. If a truck driv-



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er sights unusual migrations from isolated villages, or he observes the sale of famine foods in the market, such information should play a role in early warning systems, even though they may not be readily quantifiable.

Indicators themselves also raise controversy. Which ones provide enough lead time to respond to the event? Which ones are concurrent with or lag behind the event to be averted? Some people consider drought to be the best early warning indicator of famine. Others disagree. Yes, rainfall

is readily quantifiable, and it affects the health of crops. But there are instances when, although there has been a sharp reduction in rainfall, the rain that falls does so at the appropriate time for crop growth and development; as a result, crop yields do not decline. This reinforces the view that one must distinguish be-

■ Grain shipped from donor countries waits at the port for transport to inland areas. Lack of adequate transportation and storage facilities results in high loss to vermin.

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tween meteorological and agricultural droughts.

Nutrition is another controversial early warning indicator. By the time nutritional levels show a decline, the march toward famine has begun. While it is an easily quantified indicator, it may

The "warning" part of the Ethiopian national early warning system worked in Ethiopia in the early 1980s. It was the response part of the system that failed. The most recent food emergency situation in Ethiopia occurred in mid-1987 and 1988. During these

for rainfall and for agricultural production in Ethiopia, this only proved to be a short break from the devastating drought and famine conditions of prior years. While rains during the short growing season (occurring from February to April) appeared to be near normal and favorable for good crop yields, the longer, more important growing season (May to September), during which about 85 percent of the annual food crops are grown, appeared to be headed for trouble.

At least three groups have claimed responsibility for successfully predicting severe food shortages: the United Nations' Food and Agricultural Organization, the U.S. Agency for International Development's Famine Early Warning System, and the Ethiopian government's RRC. However, close scrutiny of the critical July-August decision-making period shows that each missed the earliest signs of an impending food crisis. In fact, evidence suggests that the real alert came from a field trip of a World Food Program officer to the chronically food-deficient (and war-torn) provinces of Tigre and Eritrea, who alerted the world through FAO's release of his field observations to the news media. Fortunately, a quick response, once all the warning systems agreed that the situation was deteriorating, thwarted the occurrence of this potential famine. In addition, the international donor community wanted to make amends for its lack of response to the Ethiopian



be better for monitoring changes in nutritional status or for reinforcing other early warning indicators than for prompting early response to deteriorating food security situations at the family or village level.

■ *Gojjam, the breadbasket of Ethiopia. Every bit of arable land is being cultivated here. If population continues to rise, how long will Gojjam remain a surplus-producing area?*

years, both the timely warning and timely response parts of the system performed well. One could argue, however, that early warning systems in Ethiopia—or in other drought-prone parts of sub-Saharan Africa—have not yet truly been tested. Warnings were issued in late summer 1987 and famine did not occur. Should this situation be viewed as an early warning success, or as the result of happenstance?

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*Should this situation be viewed as an early warning success, or as the result of happenstance?*

■ *Market day in Bahar Dar. Items being sold can provide qualitative indicators of impending famine.*

famine earlier that decade. As a result, donors were much more vigilant than they might prove to be in the future. Happenstance played a major role in averting this crisis.

#### **Concluding Comments**

Can famine early warning systems work? How can we truly test them? Sometimes the political nature of famines makes a proper response (as opposed to detection) more difficult to achieve. Often friendly governments do not want to embarrass their allies by publicizing their inadequacies in coping with food shortages, regardless of cause. A case in point was the general awareness of the international community (e.g., the United States, Sweden, even the International Red Cross) in the early 1970s that Haile Selassie's government was not responding to the drought-precipitated famine in its northern provinces. Some argue that the current government has shown the same ten-



dency in responding to famines in its war-torn provinces. The recent difference is that now the international community and the Ethiopian government appear to be working together to respond to the emergency food needs of the Ethiopian people.

Can international responses to famine be put on a humanitarian plane? Can famine early warning and early response be permanently depoliticized? Can humanitarian concerns be made to

automatically override political considerations? Only when these questions are answered affirmatively will African countries and the international community be in a position to cope effectively with severe food shortages. Only then will African and donor governments be able to rid the continent of famine. ■

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