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Preventing Famine

Every generation redefines what is intolerable in public health as science generates the knowledge needed for action. In this century the world has acquired the scientific basis and the technology to predict, mitigate, and eventually prevent famines. I am convinced, however, that little will happen without a concerted and continuing political effort on the part of the scientific and technological community.

The devastating famine that is striking African nations from Mauritania to Ethiopia is being treated as a sudden disaster. In fact, an early-warning system more comprehensive than the present Food and Agriculture Organization system could have been in place. It could have been connected with a mechanism that would trigger an immediate response to a developing crisis. This response should be based on meterological data (collected daily by international airlines among others) coupled with satellite photography (which registers color changes in vegetation as droughts become more severe), economic data on prices and stores of basic foods in famine-prone regions, and health data on the rate of growth and appearance of poor children in vulnerable areas.

This information, transmitted to an international office under the FAO and the World Health Organization, could trigger the release of emergency reserves from storage in strategic locations in cold climates. Grain ships at sea could then be diverted to the threatened area so that the famine could be contained or even prevented.

In the long run, the African problem is solvable. Agricultural self-sufficiency is possible by the end of the century, but not without a major commitment by the African nations and the developed countries, the United States in particular.

Nutrition is one area where figures can be put on human needs. The techniques of the Green Revolution have enormously increased the potential to fulfill those needs. We know what should be done: improved road systems; better soil and water management; greater availability of nitrogen, potash, and phosphate fertilizers and of pesticides, insecticides, and rodenticides; a change from slash-and-burn agriculture to appropriate modern tillage methods; better herd health and genetic improvement of herds; more research in high-yielding crops suitable for African soils and climate (together with preservation of the germplasm of existing plants of economic importance); for farmers, primary education and agricultural extension; programs in rural health and birth control; a rural credit infrastructure; and development of agriculture-related industries like canning, repair of farming equipment, and fertilizers. Africa will also need steady, and for a time increasing, food aid, which must be very carefully managed so that it does not undermine local farmers' buying power.

This effort is far beyond the capacities of voluntary relief organizations and initially unsuited to private investment, at least in the first stages. It must be carried by governments in cooperation with foundations, universities, and international organizations experienced in such programs.

The burden must be shared by the world at large, but the United States has a particular role. We have the world's largest grain surpluses. We have the most efficient agriculture per farmer (although not the highest yield per acre). We developed agricultural research to its present effectiveness (although our research still concentrates too much on higher yields for U.S. crops already in surplus, rather than on tropical agriculture). We invented agricultural extension services, land-grant colleges, the rural banking system. And, if any science can be said to be peculiar to one nation, nutrition is surely the "American" science.

With greater knowledge comes greater responsibility. It is my hope that as scientists and technicians who have generated some of this knowledge we will make sure that it is used for peaceful development of the world, and I urge Congress to commit U.S. resources to that goal.—JEAN MAYER, *President, Tufts University, Medford, Massachusetts 02155*