

Analysis of Famine

In a world where populations are multiplying faster than the food supply, the necessity for preventing starvation is urgent

By Barbara Tufty

► WORLD POPULATION grew two percent last year, while food production increased only one percent.

These two facts can add up to only one terrible result: mass starvation in many parts of the world, beginning in the next decade. Some experts say the Great World Famine has already begun.

The worst famines in history to date have been in India and China. Over 10 million people perished in the Bengal, India, famine of 1769 to 1770. About 9.5 million Chinese died in a famine lasting from 1877 to 1879, and in 1902 another Chinese famine killed about one million persons. The potato famine of Ireland around 1845 killed about 750,000 people. In India, over one million persons starved to death in the famine of 1866, another 1.5 million perished in Raiputan in 1869, and one million more in 1900. Since 1900, several major famines have been reported in Russia, China, India and the Congo.

Man needs a basic diet of proteins, carbohydrates, fats and minerals in order to function properly and lead a normal life of working, playing and sleeping. The amount of calories a person needs each day depends on his individual physique and activity, but a man's basic daily nutrient requirement is estimated at about 2,500 calories. The populations of Asia, Africa and Latin America subsist on a much lower caloric intake, while people in other countries, such as the United States, Canada, Australia, New Zealand, Russia and areas of eastern and western Europe, have diets exceeding the minimum requirements. The average daily intake of calories per person in the United States is about 3,200.

Loss Rapid at First

If a person gets only about 1,600 calories a day (about one pound of cereal), at first he will lose weight rapidly. After a few weeks the process slows down. In two or three months, when the person has lost about 25% of his original weight, his body reaches a state of equilibrium at which he may continue to exist for many months. If the caloric content of his diet is lowered still further, the individual loses more weight and the effects of starvation become more apparent. He becomes more and more lethargic, his pulse rate slows down, his blood pressure falls and his heart may become



Food and Agriculture Organization

FOOD IS SCARCE—These elderly women, waiting at a United Nation's relief camp in Madhya, India, are victims of one of the worst droughts in 60 years in this area. Brought on in part by the failing of last season's monsoon rains, drinking water is becoming scarce and will have to be carried to remote villages by truck and bullock cart.

atrophied. His emotions become dulled, and his mind is dominated by a desire for food. When famine spreads over a wide area, moral standards fall, and murder and cannibalism can take place, while epidemics rage throughout the weakened bodies.

The dire prospect of world-wide famine, already developing in Asia, then spreading in the next 10 years to Africa and Latin America, is alarming.

How did the world get into such an appalling situation?

The foremost cause for the nearing catastrophe is the fast-soaring growth of population, due largely to medical discoveries that have lengthened the life span of human beings and kept more babies alive. This is particularly true in newly developing countries, where social and political revolutions have brought new awareness of modern science, health and nutrition. In areas such as India, Africa and Latin America, many killer diseases such as malaria, chicken pox, yellow fever, tetanus and typhoid have been controlled while basic facts of nutrition and child

care have kept millions of children alive.

World population has increased at a breathless rate in recent years. For hundreds of thousands of years, from the beginning of life on earth to the start of this century, the population of the world increased only slowly—by the year 1900, humans numbered only 1.5 billion. Yet in the last 66 years the number of people has doubled to the present total of more than three billion. If present trends continue, the human population will more than double itself again in the next 30 years. This means that by the turn of the century, there will be more than seven billion people.

Food Production Lags

The production of food to fill these hungry mouths has just not kept the same pace. Prehistoric man ate his food wild as he found it, gathering berries, nuts, roots, grubs, worms and fish like any other animal. When he learned to make spears and stone clubs and later

to use fire, his diet included some more items. Gradually he learned to practice agriculture and animal husbandry, and he grew the great staples of food such as wheat, rice, corn, barley and vegetables, as well as cattle and poultry.

Today the world has the potential for a better diet than ever before, thanks to farm machinery, irrigation, fertilizers, pesticides and research that develops new hybrid plants and animals. Dehydration, freezing, radiation, canning and other modern processes have preserved foods to give year-round supplies in the more advanced countries.

Yet even this marvelous progress in food production, preservation and storage has not been applied fast enough to keep up with increasing populations.

Production Increase Rare

Recent reports from the Food and Agriculture Organization (FAO) of the United Nations show that in the past year only a few nations were able to increase their production of food. Among the developed regions, North America and western Europe have had sizable increases in agricultural production. Japan had a small gain, but drought in South Africa and Australia caused serious harvest reductions. Among the developing countries, Latin American production increased sharply, but the rapidly expanding population of the region left the output per person basically unchanged. The FAO reported that unfavorable weather cut food production in Asia, India and parts of Africa. Among Communist regions, mainland China appeared to have maintained grain production at 1964 levels, but severe droughts in Russia and eastern Europe sharply cut production there last year, and food had to be imported.

Over the past several years, large regions such as India, Africa and South America have had to change from exporting food to importing food. This switch has left only a handful of nations remaining that still export food to help fight starvation—the United States, Canada, Australia and New Zealand. Yet even their food supply has certain limitations, and they cannot be expected to continue exporting indefinitely to feed the continuously expanding populations of other nations.

With these realities, disaster for the human race lies just ahead, unless something is done.

What is this "something?"

There are two things to be done, both complex and both taking time: slow down the population growth and speed up the food production.

Obviously putting the brakes on population growth will take time. The momentum creating 30 million more people each year will keep population expanding for many more years before massive birth control programs can become effective throughout the world.

Also, speeding up agricultural production is very difficult in many areas of the world where land is poor,

weather is inclement, and agricultural methods are archaic. It will take several years before enlightened leaders in developing countries can get their people to seriously adopt modern agricultural methods and become self-sufficient in producing enough food for themselves, instead of depending on hand-outs from other nations.

Meanwhile, entirely new ideas for food are being tested for future consumption. Protein-rich flour is being made from wheat, barley, glutinous rice and grain sorghums; nutritious fish flour has been ground from bones and fish parts that formerly were wasted—about two-thirds of the total catch. The corn industry has come out with a spectrum of new ways for using corn—enriched and self-rising cornmeal; ceplapro, a high-protein corn food in kernel form to replace rice; and CSM, a new baby food in powder form. In India the Central Food Technological Research Institute at Mysore is making milk from peanuts and processing mangoes into cereal flakes. A new American process is making wheat into a rice-like grain palatable to Asia's rice eaters, while scientists are trying to make exotic foods sound palatable to Americans—tasty meals of algae, plankton and seaweed from the oceans, and delicacies of fresh fried wax moth caterpillars, chocolate covered bees, broiled grasshoppers and toasted leaf-cutting ants.

'Haves' Must Share

This is the long-term look at solving the food crisis. In the immediate present, however, the only way to ease the problem for the next few years is for the "have" nations to continue shipping supplies to the "have-not" nations. This state of affairs involves many factors, including the amount of production and surplus foods in the donating nations, the possibilities of war and bad weather, and the bottleneck of transportation, storage and preservation of food in the receiving nations.

The potential of American food productivity is tremendous, says the U.S. Department of Agriculture. The fact that our surplus foods have dropped from the peak year of the 1960 crop in no way implies that we are running low on food supplies, as some extremists have declared. With President Johnson's Food for Freedom program, acreages of crops are now being increased in the United States—13% increase in wheat from 52 million acres to 59 million acres, an 11% increase in rice from 1.8 million acres to 2 million acres, a 1.5% increase in corn from 67 million to 68 million acres, while grain

sorghum remains about the same—about 17 million acres.

There are always possibilities that disasters such as war or inclement weather could upset the supply of food in the providing nations, but these are unforeseeable factors.

Storage Is Inadequate

Much of the immediate problem lies in inadequate transportation and storage facilities in the countries of destination.

Indeed, poor equipment and archaic methods may be prime factors in the spread of famine throughout the world in the future.

An appalling amount of shipped food is wasted along its shipping routes. Ships loaded with grain sometimes have to wait outside foreign ports for days, even weeks, before there is room to berth.

Food shipments are often unloaded on the docks and left unprotected against the heat, rain and humidity of the tropics, while rats, insects and other pests manage to gobble a good share of the shipment.

Sometimes there is no train or other vehicle traveling into the interior of the country, and supplies must be carried by camel, donkey, mule or on the human back.

By the time the food reaches its destination, it may be only half of the original amount.

Thus the impending crisis of famine draws closer. As Dr. Gunnar Myrdal, outstanding Swedish economist and sociologist, said at a recent FAO conference, "Social catastrophies are different from the certainty of death for the individual, as they can and should be averted. And if we do not use foresight and take measures against . . . this unthinkable menacing calamity, the gathering food crisis . . . we will all perish and there will be no posterity."

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