

FAMINE!

... Can We Survive?



2-

3

Cover Photo — *Wide World*

FAMINE

—*Can We Survive?*

Ambassador College Research Department



AMBASSADOR COLLEGE PRESS
Pasadena, California
Printed in the United States of America



© 1969 Ambassador College
All Rights Reserved

Printed in the United States of America

Table of Contents

Why This Booklet Was Written	7
---	----------

CHAPTER ONE

The Population Bomb Explodes	9
---	----------

CHAPTER TWO

Food and Population — Race Against Time	23
--	-----------

CHAPTER THREE

Hunger! Greater Threat Than the H-Bomb! ...	31
--	-----------

CHAPTER FOUR

India — Nation in Crisis	41
---------------------------------------	-----------

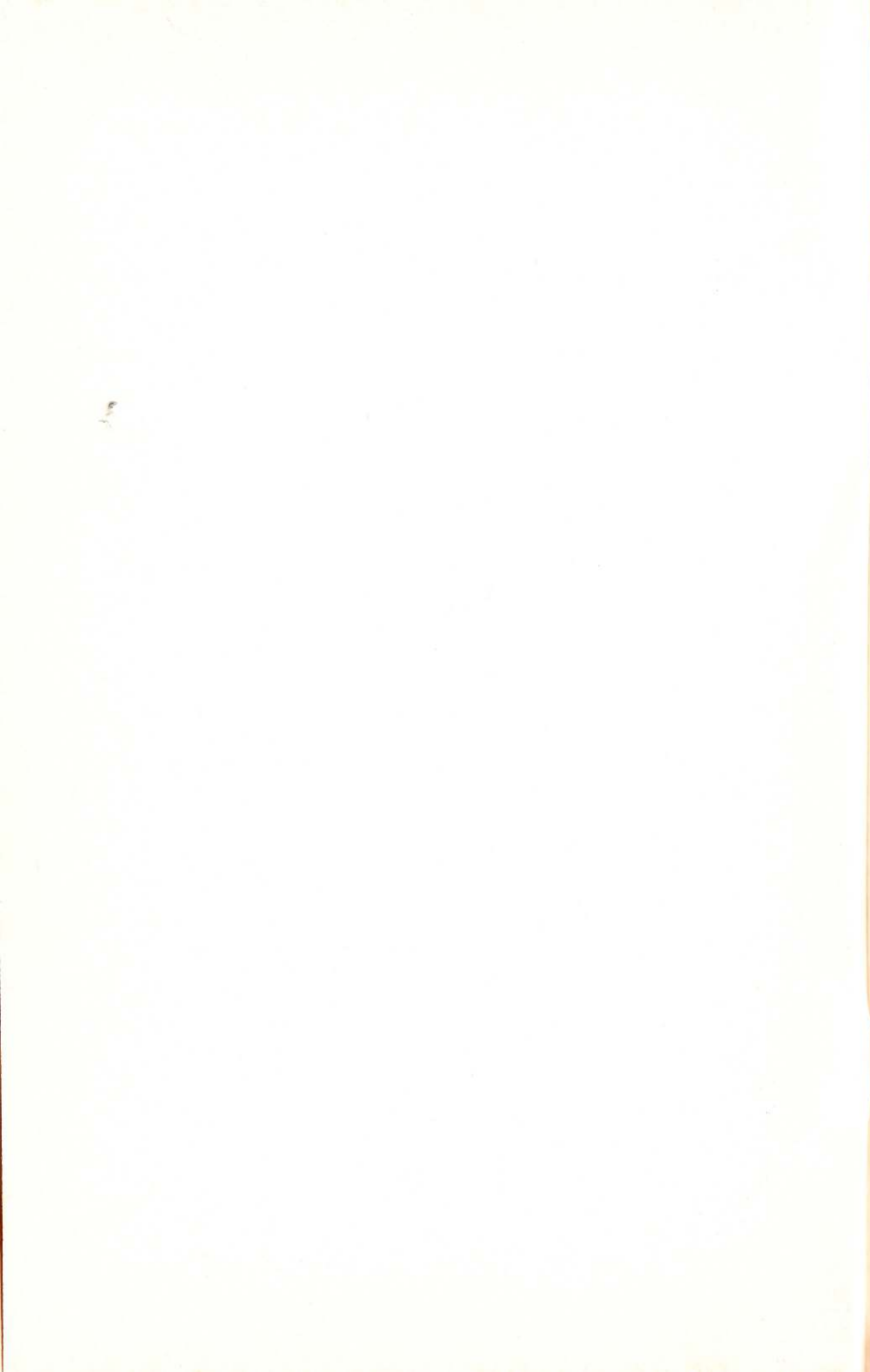
CHAPTER FIVE

Can Science Save the World from Famine?	59
--	-----------

CHAPTER SIX

Famine Stalks the Earth	83
--------------------------------------	-----------

Bibliography	92
---------------------------	-----------



Why This Booklet Was Written

INEXORABLY, silently, ominously, the world's greatest single problem is crowding in on us. The population explosion is real — it is happening right now — it is going to continue.

Strangely, this most urgent problem seems the most vague; the most subtle. Few people give much thought to the problems of global food supplies; burgeoning populations; urban crowding — unless it affects *them*, personally.

If you live in a city — any city — you are experiencing, in your own way, a little of the pressures of the population explosion. You wait longer for a place on the golf tee; you spend more time looking for a parking place than before; you leave for work earlier, and arrive home later. You are irked at crowds in places of public entertainment; traffic snarls; airport noises, and supermarket checkstand lines.

But the shocking starkness of the world's biggest problem is far more than the daily little delays and discomfitures of affluent societies. It is the most dangerous, the most horrifying problem of our times; carrying with it greater threat to human survival than Communism, the arms race, the Hydrogen Bomb, chemical or biological warfare, or the race to conquer space.

Here are the facts you must have courage to read. There is no changing them — they speak plainly, eloquently, of the most urgent problems of this technological age. This booklet will shock you — but it will also show you how survival is possible!



The Population Bomb Explodes

HOW WEALTHY are you? How much money do you make in a year's time? Does your family have one or two automobiles? Color TV, stereo and hi-fi? Refrigerator, freezer, electric or gas stove, oven, dishwasher? Do you have adequate food, sanitary facilities?

Few on this earth have any of these.

Not one person in one hundred will ever, in his lifetime, living in backward nations, have the opportunity to have what an affluent Westerner would consider a good meal!

The "Average" Family

Hogs, chickens, cats, cows and dogs in the United States eat far better than the malnourished millions in Asia, Africa and Latin America!

The average Westerner travelling through the slums of Recife, Brazil, Hong Kong, or Bombay, India, simply can't begin to believe his eyes!

For a moment, put yourself in the place of the average person living in an undeveloped country.

First, you would have to throw out all your living room furniture, lamps, end tables, coffee table, television set, radio, couch, chairs. Next, smash the bedroom furniture, box spring mattress, mirror, chest-of-drawers. Next, destroy the bathroom entirely — everything!

Kitchen? Throw out the refrigerator, stove, dining room

table. Discard all the food except a few old, moldy potatoes and a few crusts of old, dried-up bread. Milk, eggs, meat, vegetables — throw them all out the window!

Now, do you think you would be living like the average person in a poor country? No — not yet.

Burn down your house! Give all the automobiles away — perhaps keep one old rickety bicycle for personal transportation. Take a few boards from your garage and build a lean-to shack in your backyard. Move in with all your family, pets, perhaps a pig and a chicken.

As Mr. or Mrs. Average World Citizen plan to be hungry and undernourished most of your life.

And how much do you value your privacy, your sanitary facilities, room to move about? As Mr. or Mrs. Average World Citizen you *don't have* privacy, *no* sanitary facilities, *no* room.

People, People Everywhere

Imagine living like the people described by Dr. Paul Ehrlich, a Stanford University professor, in his book, *The Population Bomb*.

“I have understood the population explosion intellectually for a long time. I came to understand it emotionally one stinking hot night in Delhi a couple of years ago. My wife and daughter and I were returning to our hotel in an ancient taxi. The seats were hopping with fleas. The only functional gear was third. As we crawled through the city, we entered a crowded slum area. The temperature was well over 100, and the air was a haze of dust and smoke. The streets seemed alive with people. People eating, people washing, people sleeping. People visiting, arguing, and screaming. People thrusting their hands through the taxi window, begging. People defecating, urinating. People clinging to buses. People herding animals. People, people, people, people. As we moved slowly through the mob, hand horn squawking, the dust, noise, heat, and cooking fires gave the scene a hellish aspect” (page 15).

The bulk of this world's exploding population lives in such poverty, in ignorance, in dire want — and is on a collision course

with a terrible catastrophe. Because looming over the horizon is coming the greatest famine in the history of this world!

Time is Running Out

The world is simply running out of space. The world is running short of food and water. And the world is running out of TIME!

In the words of Dr. Raymond Ewell, vice-president of the State University of New York, "It is hard for us sitting in rich, comfortable, overfed America and of course, the Western World to realize that the GREATEST DISASTER in the history of the world is just around the corner." He warned the world is running out of food, and declared, "This is the biggest, most fundamental, and most nearly insoluble problem that has ever faced the human race!"

Thomas M. Ware, the head of the Freedom From Hunger Foundation, testified about the world's food crisis before a Senate sub-committee, "Very few grasp the magnitude of the danger that confronts us." He said, "The catastrophe is not something that *may* happen; on the contrary, it is a *mathematical certainty* that it *will* happen."

Senator George McGovern, at one time U.S. Food For Peace director, also declared, "Mass starvation will be the most painful fact of life on this planet within ten years." This prophecy was made five years ago! There are few years left before you see it with your own eyes!

How imminent is the danger?

Dr. Raymond Ewell forecast, "If present trends continue, it seems likely that famine will reach serious proportions in India, Pakistan, and Communist China *in the early 1970's*. Indonesia, Iran, Turkey, Egypt, Brazil, and several other countries will follow within a few years. Most of the other countries of Asia, Africa and Latin America will fall in this category by 1980."

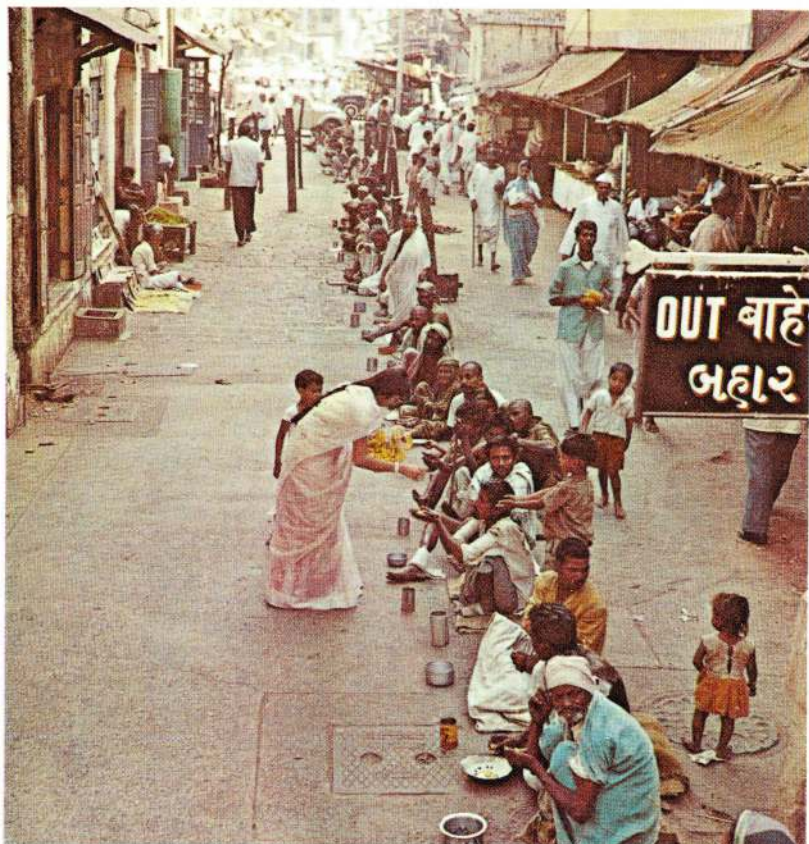
Most world leaders are beginning to recognize the stark dangers of world famine.

A group of Nobel Prize winners said, in a joint declaration, "Unless a favorable balance of population and resources is achieved with a minimum of delay, there is in prospect a *dark*

age of human misery, famine, under-education and unrest which would generate a growing panic, exploding in wars fought to appropriate the dwindling means of survival.”

Famine and Runaway Population

Every day, ten to twelve thousand people die from the plague of hunger and starvation! Another eighty to one hundred thousand die each day due to diseases directly caused by



B. Bhansali Photo; Ambassador College Photo (Right)

Above: Food being distributed on a street in India. Right: The Ibos (Biafra) come in thousands for food. Here a child waits to receive a handful of rice or powdered milk in her plate — to live perhaps only for another day.



malnutrition! Dr. Georg Borgstrom, population and food production expert, said, "Half of the one billion children alive right now throughout the world will never reach adulthood!"

Recently, the United Nations Food and Agriculture Organization estimated that one person in every two in the world is badly nourished, and that one in three is chronically hungry. Nearly two-thirds of the human beings on earth know some form of hunger — many millions barely subsist from day to day.

Every second four new babies are born around the world. During this time there are two deaths. This means there are almost 8000 more human beings living on this planet every hour! Or over 190,000 every single day; about 1,300,000 every week, or *over 70 million* added to the world's population every year.

This means that every year the world adds to its population another Canada and Mexico!

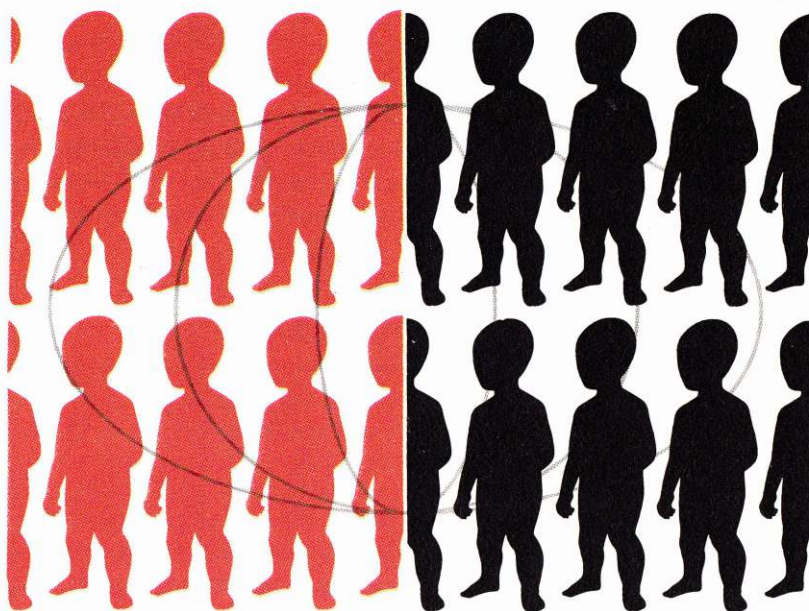
Demographers and population experts estimate that the world population will pass four billion by 1975-1977; *DOUBLE* in approximately 35 years; and *double again* 35 years later! By the year 2000, it is estimated, world population will climb to the dizzying height of six to seven billion! Thirty-five years later — twelve to fourteen billion!

These are estimates, of course. Some put the figure higher; others lower. But in any case, the figures show the world's population is increasing at an astounding and *dangerous* rate.

This phenomenon is what population experts call the "Population Explosion." Dr. James Bonner of California Institute of Technology stated, "The population growth cannot go on as it is now, or we will have *wall-to-wall people*. All the land mass will be covered by people standing. What will we do then, stack them in tiers?"

In order to feed all these people with an adequate diet, experts estimate world food production must double by 1980, triple by the year 2000. But this, in view of actual increases in world food production, is virtually an impossibility!

In plain English — when population passes food production, worldwide famine, starvation, disease epidemics, and resultant **FOOD WARS** are *inevitable*!



**"1/2 of the children alive today
will never reach adulthood"**

Georg Borgstrom
Food Production Expert

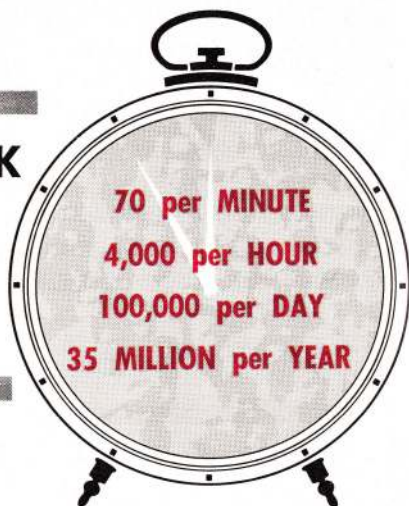
Collision Course Coming

Alarmed by present population trends, Dr. Binay Sen, director-general of the United Nations Food and Agriculture Organization said, "If the rate of food production cannot be significantly increased, we must be prepared for the **FOUR HORSEMEN OF THE APOCALYPSE!**"

Dr. Earl L. Butz, Dean of Agriculture at Purdue University flatly warned: "The world is on a collision course. When the massive force of an exploding world population meets the much more stable trend line of world food production, *something must*

STARVATION CLOCK

ESTIMATED DEATHS DUE
TO STARVATION
AND MALNUTRITION
AROUND THE WORLD



give. Unless we give increased attention to the softening of the impending collision, many parts of the world **WITHIN A DECADE** will be skirting a disaster of such proportions as to threaten the peace and stability of the Western world!"

Said another expert, "It is five minutes to midnight in the battle against hunger. When the clock strikes twelve, we may find ourselves uttering the saddest of all refrains: 'too little and too late.'"

The population clock continues ticking. Each tick brings two additional lives into the world! Too little is being done. And the hour is very late.

Point of No Return?

Dr. Harrison Brown, geochemist at California Institute of Technology, stated that the food increase among the **POOR NATIONS** in one recent year was about 2 percent (worldwide average over a period of time has been one percent), but the rise in population was nearly 3 percent! The consequences are obvious. India, he says, has already reached the "point of no return." Another expert estimates that agricultural production in less developed nations increases at 2.5 percent. This is a generous

figure. Even so, to properly feed burgeoning populations, these nations need a 4 percent increase in total production. This seems almost impossible to achieve even in a good year.

In 15 of 32 African and West Asian countries, per person agricultural production actually decreased from 1957 to 1967.

In 1967, due to good weather and technological developments, world food production increased by 3 percent. But, since population also increased — the REAL food gain was only 1 percent. And the gain didn't even make up for previous disastrous years.

In 1968, there were some explosive increases in production of principal crops in such nations as Pakistan, India, Ceylon and the Philippines.

Some time was bought. But the food problem has not really been solved. Surpluses in *some* crops in *some* nations occurred. But distribution broke down in many cases. Food production was not synonymous with food availability. And, of course, production of grains does not mean production of vital proteins, fruits and vegetables!

India's Dilemma

Can a backward, illiterate, impoverished nation develop the farming skills, technology and science soon enough to avert the stark tragedy of famine? Many experts say, "Absolutely not!"

India, for example, has a burgeoning population of an estimated 540 million people.

In 1966 the United States shipped 9 million tons of food to India — one fifth the entire U. S. production of wheat for that year. Six hundred ships plied the oceans — in a vast food armada — bringing food to starving millions. More than 60 million Indians lived from ship-to-mouth during the critical months of famine! Were it not for the American abundance, millions may have starved to death!

Haiti

Life expectancy in Haiti is 32 years. One fifth of the newborn babies die before they are a year old! Ninety percent

of the population is illiterate — can't read or write. Resistance to disease is very low.

In Haiti, both adults and children, to stave off starvation, actually gulp down dirt. There are very few doctors available, so women give birth to their children along the roadside in ditches, or in the fields. Only five to ten percent of the people receive what could be called a normal calorie intake. Malnutrition and starvation are a way of life!

Take a look at a few other countries.

In Zambia, 26 percent of the newborn babies die before their first birthday. In Guatemala, 40 percent of the population dies from malnutrition! Sixty percent of the people die before age 20! In one city a virtual skeleton of a girl — eleven years old — was found, weighing 21 pounds. She was still "alive!"

In the underdeveloped world, in the have-not nations of Africa, Asia, and Latin America, the death rate of children is 10-12 times that in the United States! ONE HALF the world's population has serious protein deficiency. The normal diet in Asia contains 3 percent animal protein; in the United States 25 percent of our diet consists of animal protein.

It is conservatively estimated that 20 percent of underdeveloped nations' populations are undernourished; 60 percent of these people have nutritionally inadequate diets.

Nutrition experts say that 2500 calories daily are required for a person to maintain good health. The average calorie intake in the United States is almost 3200 calories; the average among the undeveloped nations is only 2,030; when calorie intake falls to 1600 the result is *starvation*.

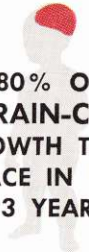
Protein: A Critical Problem

Many optimists overlook the problem of food QUALITY and concentrate only on quantity.

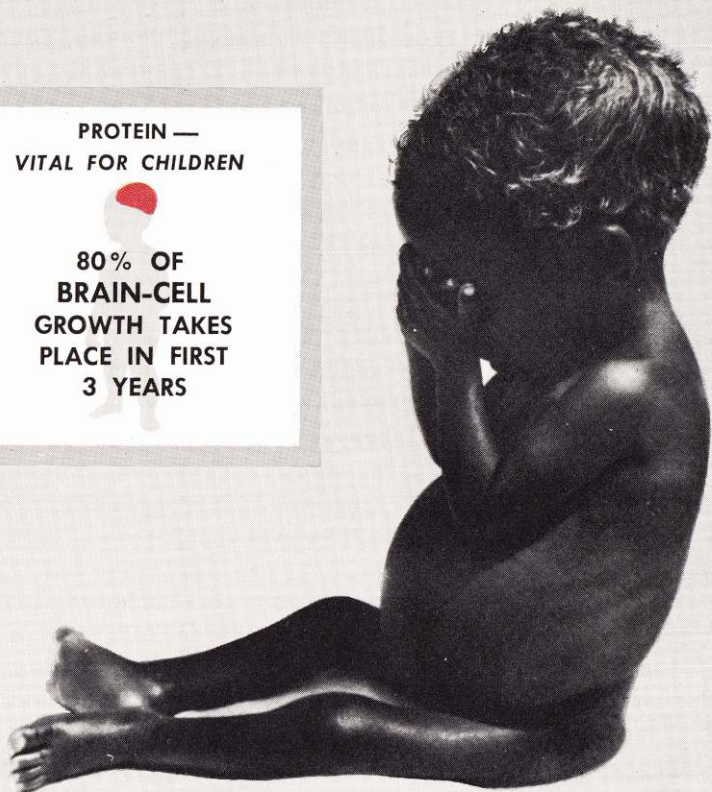
For example, every other baby born in Central Africa dies before the age of five. Yet, food is generally plentiful. What is the problem? *Simply a lack of protein!*

This lack of protein causes a disease known as kwashiorkor. And it affects 100 million children. In other words, filling empty stomachs is only part of the problem. What food you fill those

**PROTEIN —
VITAL FOR CHILDREN**



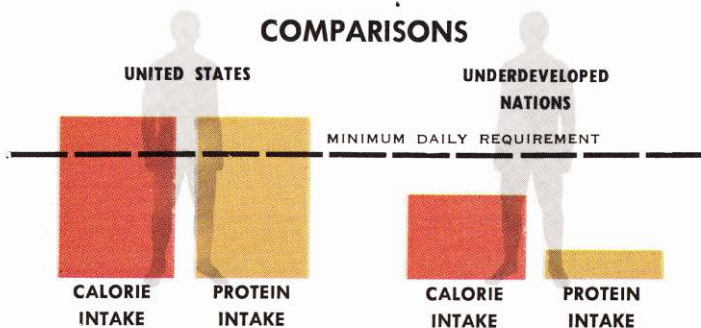
**80% OF
BRAIN-CELL
GROWTH TAKES
PLACE IN FIRST
3 YEARS**

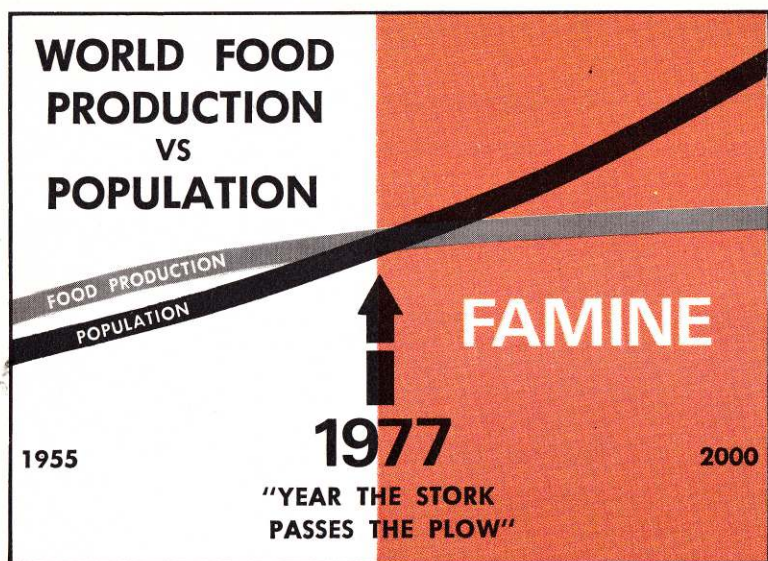


FAO Photo

LACK OF SUFFICIENT PROTEIN in diet is critical — especially to small children. Symptoms are bloated belly, matchstick legs, piercing eyes and graying hair. Death usually follows.

**INDIVIDUAL CALORIE-PROTEIN INTAKE
COMPARISONS**





stomachs with is going to determine whether they die of starvation.

Severe protein malnutrition — rampant in Central Africa — causes one-third of the above mentioned deaths. The remaining two-thirds die from such “ordinary” diseases as measles. These children would normally recuperate; but being undernourished (but perhaps overfed) they die.

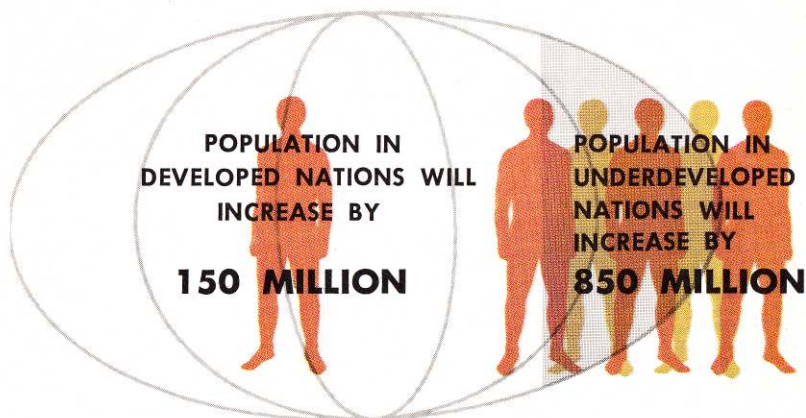
Africa is not the only place on earth affected by protein deficiency. Extensive studies in Guatemala, proved that kwashiorkor was a major cause of death in children. Some authorities estimate that nearly 40% of the deaths caused by protein undernourishment could be eliminated.

We must be careful not to confuse *quantity* of food production with *quality*. The United States, Australia, perhaps Europe may produce a SURPLUS of protein. This does not mean that it is available in most parts of Africa, Asia and Latin America. Because there is a food glut in America and Europe does not mean the average Indian, Congolese or Peruvian is getting enough to eat.

Can the World Be Saved from Hunger?

In the past five years the population in Asia rose 12 percent. In South America, the population exploded 15 percent. Mean-

IN NEXT **12** YEARS



while, the all-important factor of FOOD production only rose 10 percent in those areas.

This means the per-capita food in Asia *fell* by 1.8 percent; and in Latin America, the people had 4.5 percent less to eat!

Every eight weeks the world must find food to support and feed an additional ten million people — a population larger than either London or New York! In 35 years, it will be every single month!

By 1980 world population is estimated to rise 900 million — and five-sixths of this fantastic increase will be in the poor, underdeveloped countries! Thirty years from now the resources of Latin America will have to feed 650 million people instead of the present 250 million!

By the end of this century, we must have a food supply to feed approximately six to seven billion. Some 79 percent of these people will be in underdeveloped nations.

“The people who will be hungry tomorrow are already born.” These are the words of Richard W. Reuter, a former director of the Food for Peace program. When you know that food needs will **DOUBLE** by 1980, triple by 2000, it appears there is little hope of saving these people from starvation.



Chapter Two

Food and Population — Race Against Time

DEMOGRAPHERS tell us that world population did not reach the 500,000,000 mark until 1650 A.D. From the time of Christ until 1650, the world's population had doubled just once.

However, take a look at these startling figures! From 1650 until 1850 world population again *doubled* — in 200 years to ONE BILLION. Eighty short years later world population again doubled — to two billion inhabitants. From 1930 till the present, world population has zoomed from two billion to three and one-half billion!

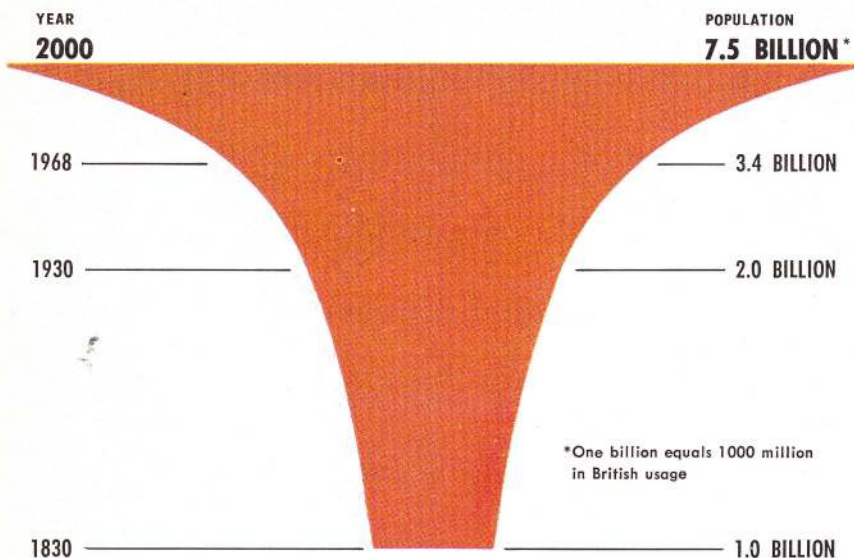
The present world population doubling rate is about 35 *short years!* This means, as mentioned previously, if you project present population trends into the future, by the years 2000 A.D. there will be six to seven billion people on this already crowded planet. By the year 2035 world population would be a fantastic twelve to fourteen billion people.

But, if the doubling rate increases, and world population continued to double in less and less years, the top will fall off the graph!

This is what makes scientists turn gray with worry. People are already suffering an acute food shortage in many under-developed nations.

How will these additional billions be fed?

It is absurd to think of the present growth rate continuing



POPULATION MUSHROOM

POPULATION DISTRIBUTION (IN MILLIONS)

	IN 1968	IN 2000*
U. S.	200	350
Canada, Australasia	40	70
Latin America	270	760
Europe	460	570
Africa	330	860
USSR	240	400
India	520	1330
China	730	1480
Japan	100	140
Rest of Asia	590	1550

*Projected Figures

into the indefinite future. If it did, in 800 years the earth's population would be thirty million billion people on earth — that's a three followed by sixteen zeroes! This would be about 50 people for every square yard of the earth's land and sea!

But let's get back to reality. The population explosion is not one thousand or one hundred years away. It is with us right now!

And the next ten years will tell the story!

Death Rate Versus Birth Rate

Different countries in the world have different doubling times in population growth. Some are doubling faster than every 35 years, the average for the earth!

Here are just a few examples of how fast population is doubling (based on 1968 figures): Norway, Denmark, Poland, and Spain — 88 years; United States, Russia and Japan — 63 years; Nigeria, 28 years; Kenya, Turkey, 24 years; Brazil, 22 years; Costa Rica, 20 years; Philippines, 20; and little El Salvador doubles every 19 years!

The world's underdeveloped countries are growing at a far faster rate than the bountiful, industrial nations. The area which have the *least food available* have the *worst* population explosion!

But why this sudden population explosion?

Obviously, there would be no population explosion if the death rate of nations kept up with the soaring birthrate. Actually, it's not that people are being born much faster than centuries ago; an important reason for the leaping population is the *diminishing death rate* around the world!

Indonesia, for example, had about 46 births per thousand population in 1966 — a whopping figure. Costa Rica's birthrate was 45 per thousand. However, based on the 1966 figures, the population of Indonesia doubles every 27 years and Costa Rica's every 20 years! How could this be?

The answer: Indonesia's death rate was over 20 per thousand, while Costa Rica's was less than 8 per thousand. Subtract the difference. Overall, Costa Rica was growing at the

rate of 37 per thousand while Indonesia was growing at the rate of 26 per thousand! Quite a difference!

As ironic as it may sound, the more people we save from death — *the greater* the problem.

Death Rates Reduced

What is the cause of the lowering death rate around the world? Frankly, the development of health programs and chemical science has made the biggest contribution to the lowering of the mortality rate!

The establishment of effective health programs has reduced the death rate; the use of DDT to kill mosquitoes, the dread carriers of malaria, has drastically lowered the death rate in many remote areas. The use of chemicals and poisons to kill disease-carrying insects and bacteria is a reason. Better sanitation and removal of malarial swamps has been a major factor.

Because of these developments, between 1940-1950 the *death* rate decreased a whopping 46 percent in Puerto Rico and 43 percent in Formosa!

It simply means fewer babies are dying in their infancy. *More people* are reaching the age where they engender children. And more of *these* children are living to beget children. The cycle becomes endless — creating, in time, a population explosion.

What is the result? Perhaps 2.4 billion on earth are undernourished or deficient in several vitally important nutrients. That's about two out of every three people on earth.

The Food Table Turns

The first decade or so after World War II food production kept up with population in the underdeveloped countries. But the tables turned in 1958, a crucial year. From that time till this, the stork outraced and passed the plow. More and more had less and less to eat. According to economist Thomas Malthus, food production can only grow arithmetically (i.e., 10 acres plus one acre equals 11 acres), but population explodes *geometrically* (i.e., 10 doubled is 20, doubled again is 40, etc.)! There comes a time when population *passes* the needed food production.

Since 1958 the crisis has generally grown worse. The first shocking blow came in 1965-1966 with severe drought and threatening famine in India.

Averaged around the world, in 1966 each person actually had *two percent less* to eat than in 1965! Only ten nations that year grew more food than they consumed. More than half the world surplus was grown in the United States.

Disaster was barely staved off in 1966. What happens the next year the world faces drought and famine?

Remember: Every year world population grows another 70 million. Every three years another United States is added to the world's population!

India — the Prospects

Officials of the Indian government hope India will be self-sufficient in food by 1971. Is this hope realistic? India's population grows about 13 million every year. Therefore, in three more years India must be able to feed about 40 million more people.

According to Georg Borgstrom, the *present* agricultural output of India would suffice about 300,000,000 people. But India's population is about 540,000,000. As a result, today virtually the entire nation is undernourished. As we'll see later, with this and many other problems it will be very difficult for India to make the plow pass the stork.

Ominous Future Ahead

Says Dr. Borgstrom, "Lofty assurances that India will be able to feed herself by the end of the fourth five-year plan in 1971 sounds *ominously hollow* when confronted with reality. It seems highly unlikely that India in the next decade will perform the miracle of growing faster than any other major agriculture so far in history, namely with 5 percent per year" (*The Hungry Planet*, p. 134).

Says Dr. Raymond Ewell, "In thirteen years India is going to add two hundred million more people to its population. In my opinion, as an old India hand, I don't see how they can possibly feed two hundred million more people by 1980."

The situation in India, in spite of the glamorous hope of



McNair, Ambassador College

There are more than enough men and bullocks to work every acre of India's available land. The problem is to persuade farmers to use better irrigation and cropping methods and better varieties of seeds.

new scientific developments, is ominous. India's problem is a terrifying reality!

But many other areas of the world face a crisis just as severe — just as overwhelming!

In Central and South America, some of the most miserable and depressing poverty can be seen. Yet, these nations have some of the highest birthrates found in the world! As a whole, Latin America is growing *faster* than any other area in the world!

In several nations of Latin America population doubling is taking place within 25 years! This was thought to be impossible.

Latin America passed the 200,000,000 mark in 1960. The

population there increases almost *twice as fast* as in North America! At the present rate it will pass the half billion mark in the early 1990's. Forty-three percent of the population is below age 15, compared to 29 percent in the United States.

As things stand, it is South America which will experience some of the gravest consequences of the population explosion. Droughts in early 1969 aggravated the already serious situation.

What It All MEANS

The facts of world food production, combined with the reality of the population explosion, add up to one thing: the worst time of world-engulfing famines to strike the earth!

The few millions dying each year from starvation could soon be multiplied a hundred times. Hundreds of millions of human beings now living and drawing breath could suddenly perish in world-shaking famines!

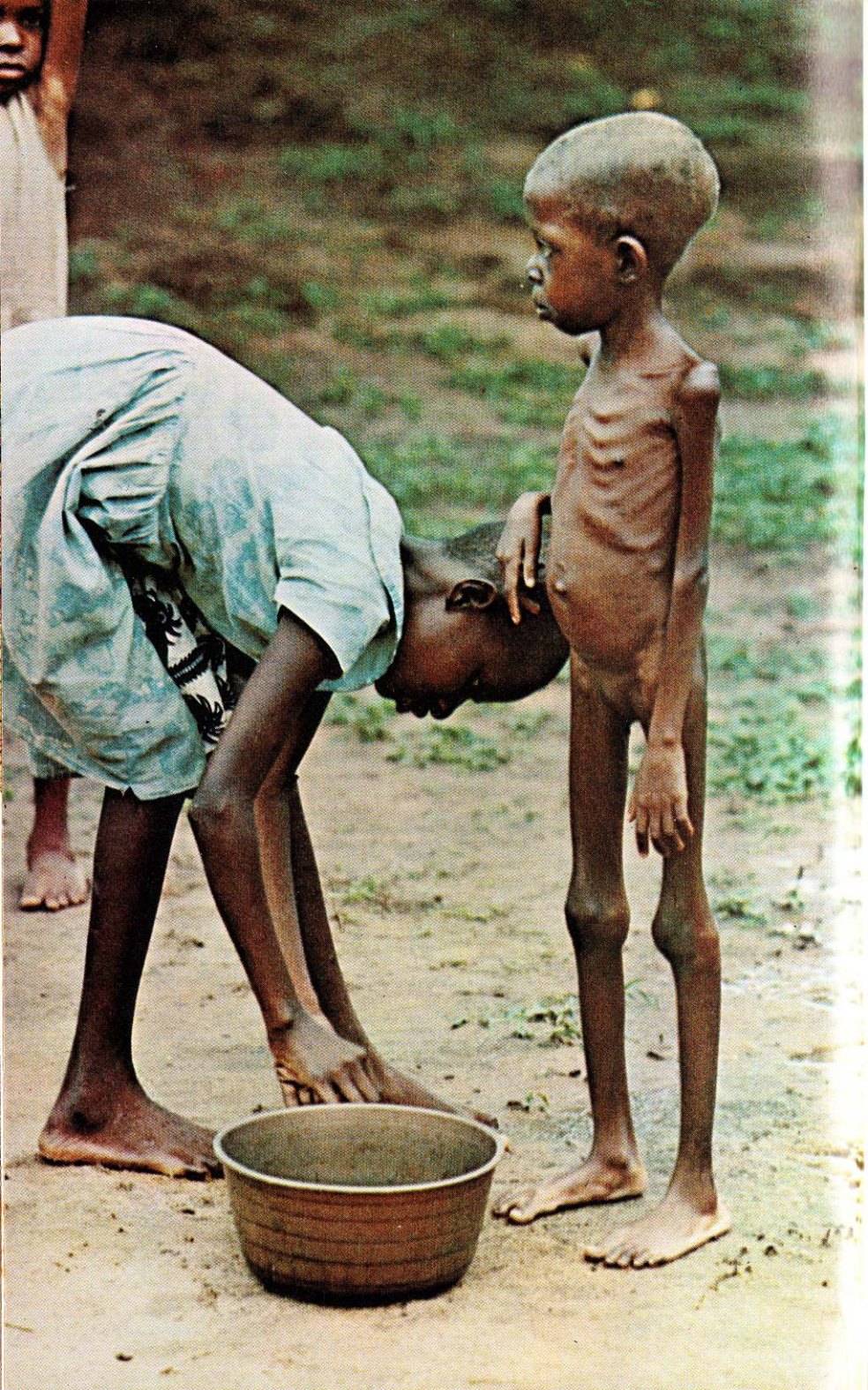
More and more crowding means less sanitary buildings, more waste and refuse, more garbage, more pollution of the water, air and land. And more disease.

It is not inconceivable that a flu epidemic similar to the one in 1918 could strike, killing millions more! Or, because of the mutations in insects and bacteria caused by chemicals, poisons and radiation, it is very possible that a super-flu or other deadly pestilence could sweep the world, killing as many as 500 million!

Not so fantastic when you think of the way people will be living in vast portions of the world, their weakened state of health, poor nutrition, unsanitary conditions and overcrowding!

Also the specter of war will undoubtedly flare up; nation will go to war with nation just to fill empty bellies. Millions will march down the path to war in order to get the minds of the masses off food. Vast *food wars* could break out around the globe. Food riots erupting into food wars could trigger global World War III and the possible extinction of the human race!

In plain words, the population explosion *could* spell the final doom of mankind!



Chapter Three

Hunger! — Greater Threat Than The H-Bomb!

EVERY SECOND there are two more people on earth — or 190,000 every day. One day's additional population would make a line of people over 60 miles long.

Standing shoulder to shoulder, a year's population increase of 70,000,000 would make a line stretching 24,320 miles, or extending all the way around the world at the equator!

If all the people on earth today — all 3.5 billion of them — were lined up, the queue would stretch over one and a quarter MILLION miles! The line of people would extend from the earth to the moon and back again, twice. Or, if you wrapped this line of people around the earth, it would go around the equator 50 times!

India is a prime example of the population explosion. In 1968 India had 523 million people. In that year over 21 million babies were born and 8 million people died, leaving a population gain of 13 million — more than the TOTAL population of Australia! At this pace, in a short 13 years India would add a population as large as that of the United States — over 200,000,000 people! Some authorities think India will reach this increase even sooner.

The Population Clock

Warns the 1967 Annual Report of the Population Reference Bureau, "No decline in world population growth is in

prospect. The efforts now being made — encouraging as they are — are *in grave danger* of being *far too little and dangerously late.*”

Today, over HALF the world's billions are hungry. Daily, thousands are dying of starvation.

Josué de Castro, Director of the World Association for the Fight Against Hunger (ASCOFAM), and former director of FAO, stated: “Of the sixty million deaths recorded annually in the world, thirty to forty million have to be attributed to malnutrition” (*The Black Book of Hunger*, p. 13). That means between 80,000 and 110,000 deaths from malnutrition each day.

Warned Dr. Binay Sen, Director-General of the United Nations Food and Agriculture Organization (FAO), “The next thirty-five years . . . will be a most CRITICAL PERIOD in man's history. Either we take the fullest measures to raise productivity and to stabilize population growth, or we will face disaster of an *unprecedented magnitude.*”

Frightening? It should be.

Another scientist, Dr. Paul R. Ehrlich of Stanford University's Department of Biological Sciences, predicted, “Sometime between 1970 and 1985 the United States and the rest of the world will undergo vast famines — *hundreds of millions* of people are going to *starve to death.*”

“That is, they will starve to death unless plague, thermo-nuclear war, or some other agent kills them first. Many will starve to death in spite of any crash programs we might embark on now. And we in the United States are not embarking on any crash program. Nor is any other nation. These are the harsh realities we face.”

SOON — “Unlimited Disaster”!

Warned Professor René Dumont, the French agronomist who is director of research at the Institut National Agronomique in Paris, the world will face the greatest famine in history by about 1980. He adds, “There are others who go further than I do and say that it's already too late to avoid the terrible catastrophe and that it could come as soon as 1975.”

The plain truth is that all governments know the seriousness and severity of the onrushing peril. No secret information is

needed to predict the coming disaster. All you need do is chart two lines on a graph, one showing world food *needs*, and the other showing actual food *production* and availability per person. Such a graph reveals that world food needs have *risen above* the line of available food supply.

The underdeveloped countries of the world are now producing 16 million tons of food *less* than they need. By 1975 the deficit could grow to 42 million tons. By 1985 the food shortage will be — according to present trends — 88 million tons, exceeding the entire grain production capacity of the United States with all available farmland brought back into use!

Another vitally important factor to keep in mind is that in the hungry half of the world nations have run out of good soil which can economically be farmed. It has been depleted through centuries of overwork and overuse. According to Sen. Everett Dirksen, to mine, process, and distribute the fertilizer necessary to revitalize the worn-out exhausted soil of such nations would require about *\$17 billion!*

Where will the money come from?

While the world's nations are growing less food than is needed, many turn to the sea for food production. But, warn fishing experts, within 20 years there may be no more unexploited fishing waters left!

Warns the Food and Agriculture Organization of the United Nations, "The increase in world production of fish has greatly intensified the problem of overfishing and the need for regulation." It said that of about 30 major species considered underfished 20 years ago, about half are now threatened with exhaustion!

Famine Inevitable

Warned Dr. Raymond Ewell, vice-president at the State University of New York, "The biggest problem in the history of the world is now unfolding, namely, the problem of feeding the world's exploding population.

"The food-population problem seems likely to reach such enormous proportions, even by 1975, that it will dwarf and overshadow all the problems and anxieties that now occupy our

attention, such as the threat of nuclear war, communism, the space race, unemployment, racial problems, Vietnam, China, the Middle East, Cuba and others. These current political-military problems will FADE INTO INSIGNIFICANCE as the enormity of the world food problem impresses itself on the western world."

Dr. Ewell called the coming world famine "the most colossal catastrophe in history!"

Will science and technology be able to avert the looming cataclysm?

"It will be a close race," said Dr. Ewell. "But the outlook right now is that effective application of these resources and technology will be blocked, or at least postponed, by lack of capital, lack of education, lack of trained specialists, and by other economic, social and political forces.

"Therefore, it is my conclusion . . . that there really will be *widespread starvation* in many parts of the world during the next 15 years, in spite of the technical potentiality of preventing such a thing from happening."

Hungry nations depend heavily on the U. S. to export food to them. But in the long term, the U. S. can't possibly feed the entire world! And suppose an agricultural catastrophe — such as widespread drought — hit the United States? Where would the world then turn?

Government leaders, statesmen, scientists are alarmed by the magnitude of the problem.

Said the late Dr. Lloyd Berkner, physicist and mathematician, "We are probably already beyond the critical point at which a sensible solution is possible." He estimated world population would be 7.4 billion by the year 2000. World food production he thought may continue rising about one percent a year on the average. Although, in the past couple of years production has been higher — it still is not enough.

The Gathering Storm

Chances are, YOU have never felt the pangs of hunger, or gnawing starvation. You have never had to go for weeks, months, or years with extremely little to eat. You just don't know what it would be like — to starve. But this is the



Wide World Photo

CHINA is another of the "hungry" nations. Here Chinese hold up rice bowls in hope of enough food to ward off threatening starvation.

frightening prospect that faces two thirds of the human race — daily.

Said former President Ayub of Pakistan in 1964, "In ten years' time, human beings will eat human beings in Pakistan."

Starvation is a daily fact of life — almost a way of life — in many countries, today. These are the grim realities — the harsh, stern truths — of the world you live in.

Think of the North American continent empty. Then think of it completely filling up with its present population — 225 million, in a little over three years. *That* is how fast world population is growing! Take all the people in North America, Central America and South America and place them all in Argentina. *That* is how crowded the population is in India!

Look at these facts and figures. It took the United States almost 140 years to reach the 100 million population mark in 1915. It has taken only another 52 years to reach the 200 million mark — *double!* The next 100 million is forecast for the year 2000!

More than 55 million have been added to the population

since 1950. But a huge, burgeoning population brings a host of problems of its own. Freeways and highways are clogged with 75 million automobiles. Population the past 20 years has increased 37%. Automobiles have multiplied in number two and one half times.

In New York City, downtown traffic on the average creeps along at the snail's pace of six miles an hour. Horse-pulled carriages travelled faster.

The United States has also experienced a massive movement to the suburbs and urban areas. Only 12 million — less than half of the number after World War II — Americans earn their living by farming.

"Cramped" America

But the soaring population is bringing severe problems in its wake. Crime and juvenile delinquency are increasing at nearly nine times the population growth rate. Race riots are exploding in the city slums, ghettos, and crowded areas! Traffic congestion at the morning and afternoon "rush hours" — when nobody "rushes" anymore — has become a national way of life in the densely populated cities.

Two out of three Americans live in less than ten percent of America's land area. Population expert Dr. Harrison Brown forecast that in the year 2000 Americans will be living in a *continuous city* running down the entire east coast — and another 1000-mile city on the west coast.

Said Dr. Brown, "I would estimate that by then the actual physical size of new urban areas on the West Coast alone will come to maybe *15 times the present area of Los Angeles*. That scares me, because already we've got real problems there."

Yosemite Park in the summer he compared to Grand Central Terminal in New York City. During one July 4th, more than 50,000 people were crowded into Yosemite; tent pegs were overlapping everywhere. The smoke from the campfires was so thick that Yosemite had its own man-made smog pollution problem!

Those who went to Yosemite to "get away from it all" actually only found the congestion worse!

Population experts forecast that the American population

of 300 million for the year 2000 will be crowded into urban areas — 80 percent of Americans will live in jammed, clogged cities.

We will have WALL-TO-WALL PEOPLE!

People, People, People

At the present rate of population increase, overcrowded cities will be a national *way of life!*

During the summer months, Yellowstone Park in Wyoming — far removed from the population centers — becomes a teeming outdoor slum area, jam-packed with 50,000 campers a day.

Because of surging populations, people become calloused to human suffering; overcrowding makes them tense, jittery, anxiety-ridden. Many youths feel alienated from society.

Personal identities are lost in the maze of our computerized world. Universities are overcrowded; students are known by number instead of name. As one student replied to his professor during roll call, "Number 518, row 3, pier J."

Population pressure may lead to round-the-clock work shifts and 24-hour schools. Said August Heckscher, commissioner of parks in New York City: "We have entered the era of the mass man, and you begin to wonder if we are heading for a society like that of the bees, with everything organized for the benefit of the group."

What do these facts mean to you? How will they affect YOU?

Scientists and mathematicians warn that in 1985 you can expect to see more crime, more gambling, more immorality, more racial riots, more air and water pollution. More people, more traffic, more congestion, more noise and confusion, more crowding, cities seething with discontent, malnourished millions on the brink of revolt, little privacy or solitude, more famine and starvation!

Exploding Population

If world population continues at its present rate for 1000 more years, there will be almost *two billion billion* people on

earth — that's two followed by eighteen zeros! That equals over 3,000 people per square yard including the oceans. Said one scientist, at our present growth rate mankind could populate the planets Venus, Mercury, Mars, the moon, and the moons of Jupiter and Saturn within a short 50 years!

The problem is not only for the future. It is with us right now — TODAY! Do you believe the fallacy that even though the world might be suffering a food shortage, there is no danger to the United States? Just one year's agricultural catastrophe would put America on the brink of disaster. It could happen. There is no guarantee against it.

At present, the Western World generally has enough to eat. Some surpluses are even evident. But food shortage is still with us; population continues to grow.

The population explosion and resultant food shortage still dwarf all other monumental problems facing mankind. The lengthening shadows of an age of unparalleled famine continue to approach.

The world's biggest problem isn't the H-bomb; it isn't Vietnam, or China, the Middle East, the moon race, Cuba, or Berlin. It isn't taxes. It's the basic problem of human survival — the problem of WHAT TO EAT!

Declared Dr. Robert H. White-Stevens, "The last third of the 20th century will prove to be of unparalleled gravity for civilization as it is now organized. The perils of the Dark Ages, the strife of the Hundred Years' War and the desolation of all the marauding armies of history combined will not match the devastation and loss of human life that will occur between now and the year 2,000."

New Dark Ages Coming

All the wars of history will be dwarfed into sheer nothingness compared to the massive slaughter of millions in the coming world famines.

Sound too pessimistic?

Dr. White-Stevens added, "Famine can be expected to emerge as the paramount force . . . by 1975 and continue to a

point now totally unpredictable where human society could fragment into *total chaos on a global basis.*"

Dr. Harrison Brown warned that when the world's hungry have nothing to eat, they will have nothing to lose by violent revolution. "Unless we do something about it," he warned, "it's going to be curtains."

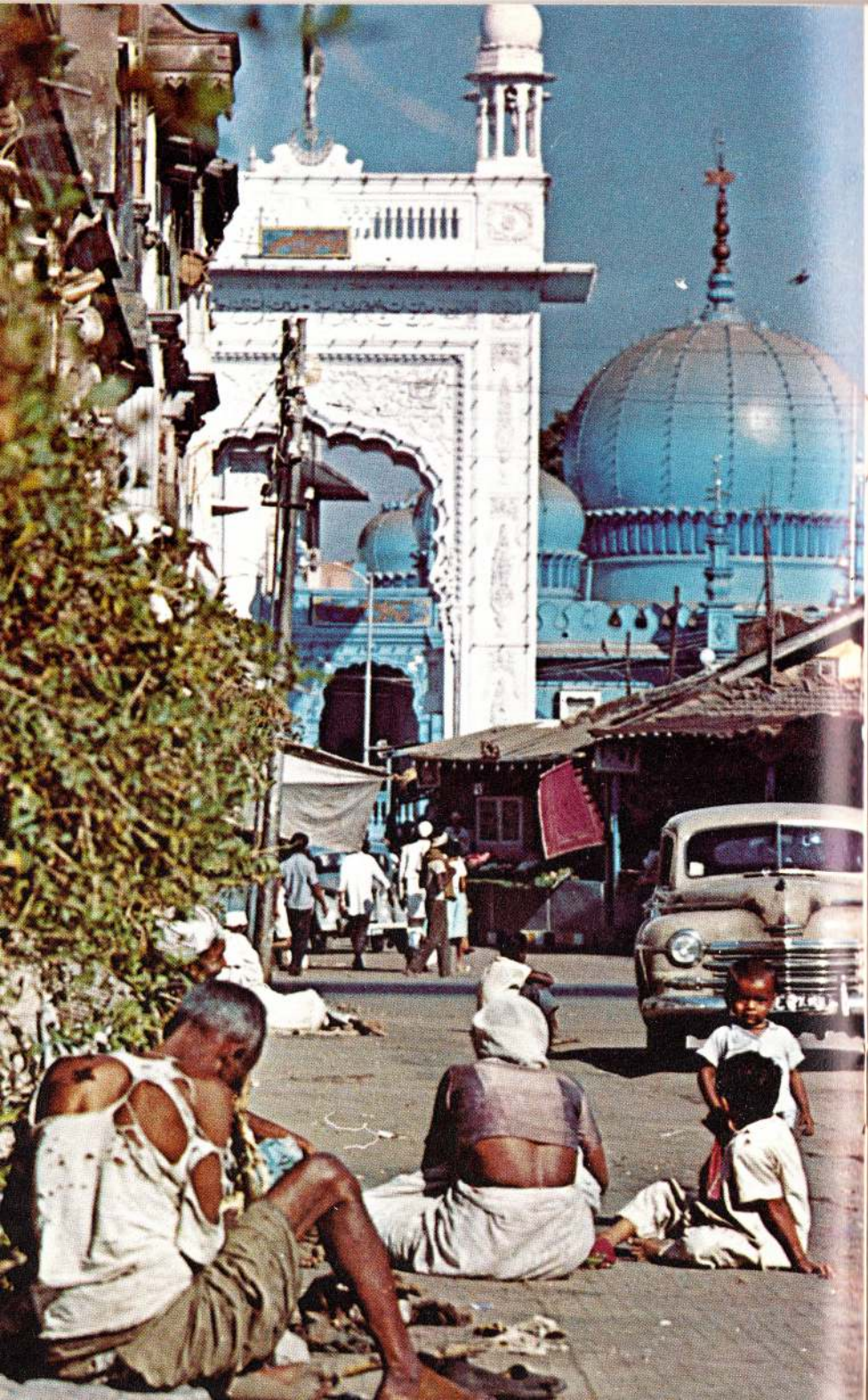
He is convinced that we are not doing enough to meet the threat; that more needs to be done faster. At the rate we are going, he said, this generation will likely be remembered as the "technologically clever, socially stupid and politically stupid generation."

With the world's population exploding at its present fantastic rate unmatched in history, even if a city the size of Chicago were obliterated every three weeks, world population would still remain the same.

Looking at the world famine threat from the overview, it is obvious that the trends of the past ten years indicate time is not in the world's favor. The problem has constantly become increasingly worse!

Some scientists and government leaders have their pet theories, their panaceas for meeting the problem. But virtually all admit that not enough is being done to cope with the onrushing disaster! The truth is, nowhere are the nations working hard enough, fast enough, urgently enough.

Right around the corner lies the greatest famine in all the world's history. Precisely when it will come is a matter of speculation. Some hope it will not come until 1980 or 1985. Others, however, are more pessimistic in their views. They suggest that the world-engulfing famine is only a very few short years away. It may strike very possibly by the target year 1975!



Chapter Four

India — Nation in Crisis

MANY MEN of science are optimistic that the population explosion can be solved. They cite miracle strains of rice, algae farming, putting new land into production, hydroponic farming, birth control — and other panaceas — as definite ways to prevent mass famine.

But this optimism almost entirely neglects the really giant problems that beset the have-not nations. Such giant dilemmas as internal strife, debilitating religious practices, almost total lack of education, poor farming methods, unexpected drought, constant threat of war, the brutal truth of how fast population is increasing — and other such problems — are simply passed over by these optimists.

But what is the situation really like in the hungry nations?

India Holds the Key

It's time the facts about such nations were known to the west. And the best place to begin for this understanding is with India.

This nation "is the bellwether that shows the path which the others, like sheep going to the slaughter, are following. The hungry nation that today refuses to heed India's history will be condemned to relive it. The future of mankind is being ground out of India. If no solution [is found], ALL THE WORLD will live

as India does now" (*Famine — 1975*, William and Paul Paddock, page 56, 57).

To give readers an insight into the complex problems of India — and how they are symptomatic of the other hungry nations of the world — we sent two members of our Ambassador College research staff on an extensive trip through that country.

What they found is disturbing and shocking.

India's World Image

India has the world's second largest population — about 540,000,000 people. Her teeming millions are often thought of in the West as being the poorest, hungriest, most illiterate and ill-clad major people on earth.

But is this the real picture of India?

Is India really a land of poverty, of squalor, of human wretchedness? Is there a genuine shortage of food in India?

India is *potentially* one of the world's wealthiest nations. Few realize that she is one of the richest countries in the world: in arable farmlands, in cattle, in natural resources such as water and minerals, and in the most valuable commodity of all — if rightly used — her tremendous *human* resources.

Yet to feed her hungry, millions of tons of surplus U. S. wheat were shipped in 1965 and 1966 to her ports. Why?

The tourist who has merely visited Delhi or Bombay and confined his interests to city life cannot comprehend India's capacities and her complexities. India must be studied in depth.

On a nearly completed tour of India, our correspondents travelled approximately 5,000 miles by rail, air and car, with some 2,000 miles of it being by car. They visited most of the major cities and travelled extensively in the most important ten of the twenty-five states and territories of India.

Into the Country

Most of India receives abundant rain or has a good supply of irrigation water available.

Travelling extensively into some of the most productive and fertile agricultural regions of India, as well as the marginal

lands, the grazing and forested areas and the arid parts of the country, one can find many unexpected conditions.

Instead of mile after mile of hardened, baked and cracked farmland, there are hundreds of miles of farm communities where the soil is rich. The lush grasses and native bushes and trees along the roadsides and around buildings reveal the fertility and productive capacity of the soil.

The states of Bihar and Uttar Pradesh, had been in the grip of one of the most severe droughts ever to strike. But the monsoons largely broke the three-year-long drought, and there were beautiful expansive fields of waving grain.

India has about 428 million acres under cultivation. Looking across the landscape in many of the farming communities, one can spot scores of irrigation wells — often as far as the eye can see — nearly all of them filled with an *abundant* water supply.

The water resources of Indian rivers, measured in terms of annual flow, are estimated to be over 1.3 billion acre feet. (An acre foot is the volume of water needed to cover an acre to the depth of one foot.) This is enough runoff, alone, to irrigate 325,000,000 acres with 48 inches of water per year, which could produce enough fruit and vegetables to completely eliminate hunger in India.

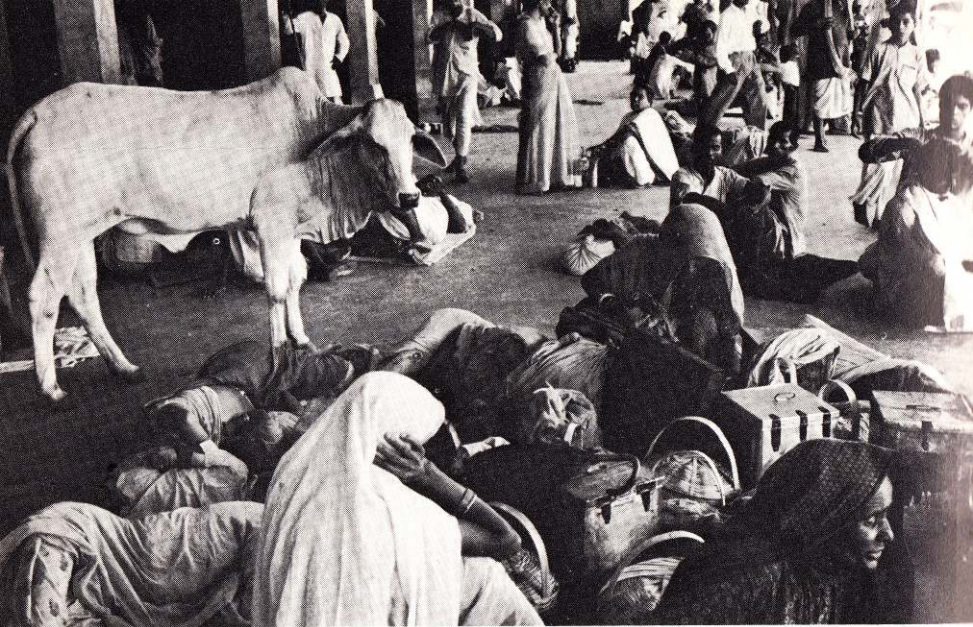
Then Why Such Food Problems

Only a very small fraction of India's water resources is being properly utilized.

In the drier regions, one can see small plots of ground, ranging from a fraction of an acre to four or five acres, covered with lush, beautiful crops, while vast areas of adjoining lands of equal fertility, capable of producing the same high-yielding crops, were dry and brown — 100% unproductive.

Why? It is the result of a hopelessly *inadequate* system of irrigation, all done either by hand or with water drawn from the wells in skin buckets by bullocks.

When will India realize the importance of proper conservation and utilization of her water resources? Our correspondents



Ted Polumbaum — PIX Photo

Millions of homeless Indians have been born, lived, and died in the streets without ever dwelling in a shelter of any kind. Authorities estimate there are currently 1.5 million street-dwellers in Calcutta alone.

never saw *one single* mechanically operated irrigation pump installed at any well, let alone in operation.

India's water resources are large but require vastly improved, economical management — especially because the monsoon rainfall comes in *one* season rather than more equally distributed throughout the year.

Potentially, India is a wealthy and productive land. Much *can and will* be done in India when her problems are properly attacked and solved.

Calcutta — "First Impressions"

Calcutta is one of the world's largest cities. Its population is variously estimated at six to seven-and-one-half million inhabitants.

Calcutta is a depressing city — a city of jostling crowds, a place where cakes of cow dung might be found on almost any walkway or wall, drying, to be sold later for fuel. Calcutta, despite impressive suburbs, is a city of hopelessly inadequate housing, of insufficient sanitation, where numerous zebu cattle

(called Brahmans in the U. S.) wander aimlessly *everywhere* enjoying "pride of place."

Walking and riding through the streets, a person is immediately confronted by what Indians themselves recognize as Calcutta's big problem — her homeless multitudes.

How many homeless Indians do you think live on the streets of Calcutta alone? Indian authorities estimate there are *1.5 million!*

These tragic people sleep on the footpaths, in parks, in the railway stations, under shop awnings and trees, in the entrances of public buildings, seeking any shelter from the weather. For them, the footpath serves as kitchen and bedroom, bathroom and toilet, living room and recreation center.

One commonly sees a man, his wife and three or four children, perhaps one of them a tiny infant, sitting in a small huddle along the streets or in the park. They have no home and no possessions except the dirty, tattered rags they are wearing and a battered old pot or pan. Pathetic sights — multiplied thousands of times. In Calcutta poverty blankets everything like a heavy dampening fog.

Can you now see why many experienced world travellers — and even many Indians — call Calcutta "the world's worst city"?

India Battles Problem of Begging

Another of India's unsolved problems is that of the professional beggar. Concerned Indians warn visitors at the outset of the pathetic, ever-present, persistent beggar.

Many little children quickly descend upon the unwary and unsuspecting — especially "Westerners," who are looked upon as "rich" — to beg for alms.

Many of these children are actually *trained professional beggars!* They know how to put on an *affected* expression — how to display pathos, sorrow, unhappiness and suffering. Often small children will be seen dirty, in tattered old rags — with an equally pathetic-looking baby in arms, to add to the emotional appeal in the "act of begging."

Throughout India there are rather healthy-looking children happily playing — that is *before* they spot a tourist. Instantly

they change the expression and attitude to one of pathetic moroseness and misery as they approach with hand outstretched — only to turn away again happy as a lark once they are convinced that their begging is going to net absolutely nothing.

One of the most revolting sights is that of beggars, ranging from children to aged adults, who have been *deliberately* and *intentionally* MAIMED, blinded or otherwise deformed.

Indian officials explain that, in many cases, these orphaned children were heartlessly maimed by cruel foster parents or guardians motivated by an insane pursuit of *subsistence* by any possible means. By being deformed, these children can appeal to sympathy and thereby be more effective in “earning a living” for the “master’s” household by begging.

Poverty, human suffering and wretchedness is, of course, by no means to be found only in Calcutta.

In the sprawling metropolises as well as the smaller cities, towns and villages, poverty, filthy and unsanitary living conditions are a shocking way of life.

On the other hand there is much beauty in some of the cities. Much of New Delhi — the capital city, built by the British early in this century, with its wide, tree-lined streets, beautiful government buildings, office buildings and apartments — is very attractive.

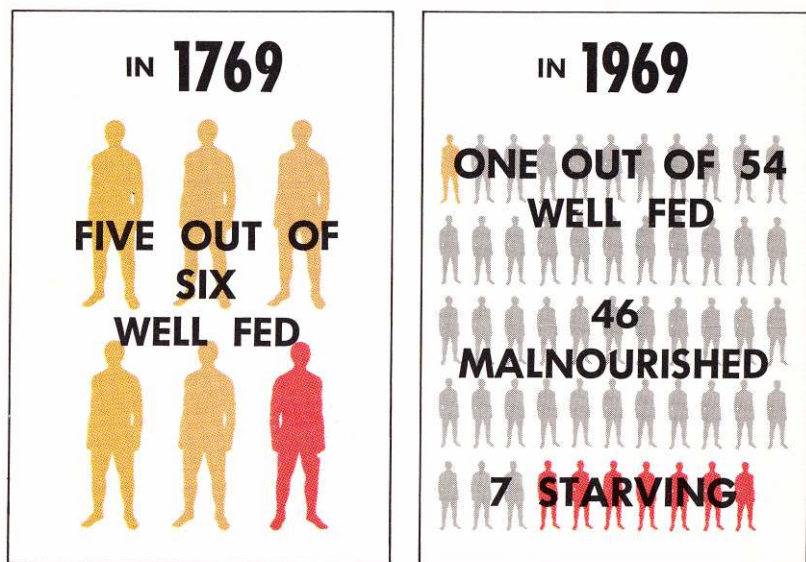
Bombay, India’s leading industrial and commercial center, has very highly developed “westernized” business and manufacturing sections, though it has its share of hapless, despairing inhabitants. Bangalore — in the south of India, a city built largely by the British as a resort and vacation center — has beautiful, striking public buildings and wide, flower-lined streets. India, as we said earlier, is a land of contrasts!

Why India Is Problem-Ridden

In spite of potential, India today is a land of “sweat, toil and sorrow.” This nation of vast population suffers horribly from needless hunger, malnutrition and actual starvation. Because of hunger and physical weakness, the efficiency of her

INDIA'S HUNGER DILEMMA

...A shocking comparison



EACH FIGURE REPRESENTS 10 MILLION PEOPLE

manpower is greatly reduced. And, because of her inefficiency and low production, malnutrition and actual starvation grow worse. It is a vicious circle.

With 428,000,000 acres under cultivation and water available to irrigate all of India's desert land, India need have no hunger — no shortage of food. Why, then, must the nightmarish spectre of wide-scale famine remain a constant, menacing threat to countless millions of Indians?

India today, as anciently, is a rich land. About 2,000 years ago, Diodorus of Sicily spoke of India in glowing terms. He found India a large, well-watered, fertile land where *two* crops were harvested each year!

In his day, India produced an abundance of food: grains, fruits and livestock. It was also known for its very rich mineral resources, silver, gold, iron and copper.

In the 1st century B.C., India was so prosperous that

Diodorus could write: "This is the reason, they say, why A FAMINE HAS NEVER VISITED INDIA." And he spoke of "there never being any lack of food among them."

What has happened to India to make it so famine-prone?

Today the word "India" to many automatically conjures up such thoughts as overpopulation, poverty, drought, famine. But why?

Why should a land of such vast natural resources have poverty, ignorance, squalor, disease and continual fear of devastating famine?

India's Government Considers Its Cattle

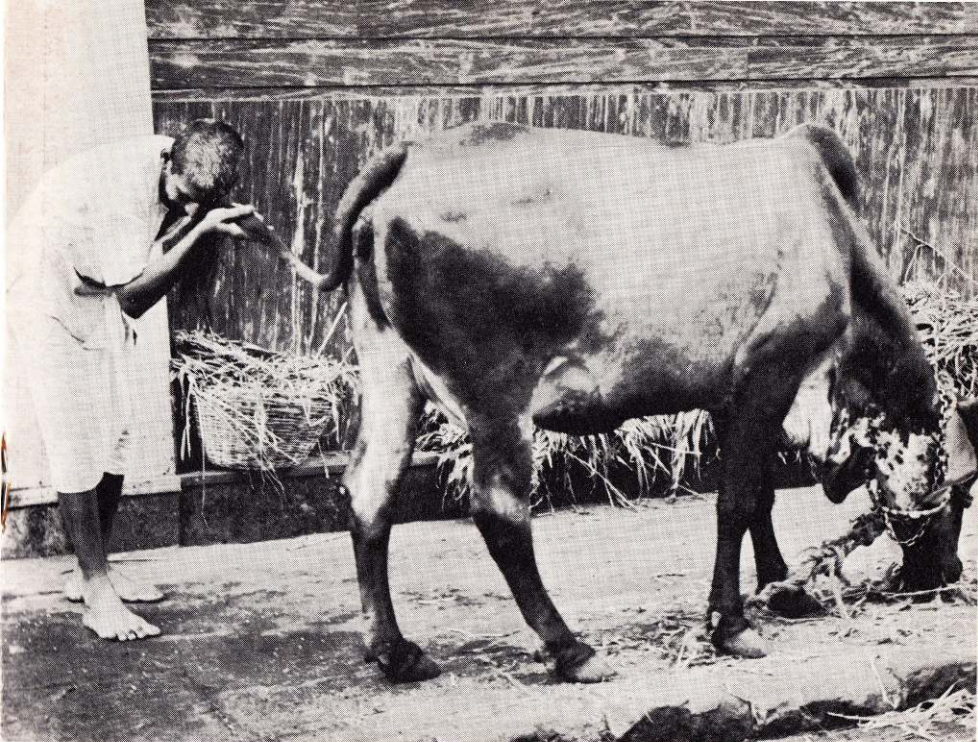
Government officials in India estimate that India has over one fourth of the world's cattle population. There are more cattle in India than in the United States. Cattle are one of India's greatest resources. Yet, this vast resource constitutes *one* of her major problems.

To be a profitable resource, both male and female cattle must be useful. The females in the production of calves and/or milk and other dairy products. Male cattle must produce meat and leather or serve as work animals. But, India's cattle are capable of giving her populace much more milk. Milk yields from the cows and female water buffaloes can be doubled or even tripled by adequately feeding the milking stock.

But here is the problem. Indian statistics report only half of India's cattle serve a useful purpose. The other half compete for the precious feed supply but add nothing to the national economy. There are just too many cattle for the available feed. The feed goes first to the male stock over the age of three years, which are the main beasts of burden. There is very little left for the poor milk cows. To an Indian, it is far more important to keep his work animals as strong as possible than to feed his cows to produce more milk.

What a tragedy! In a land where hunger and malnutrition-caused diseases are a "way of life!"

Contrary to the opinions of some, most of India's 30 or so breeds of cattle are of good quality and are potentially very



B. Bhansali Photo

The cow is considered sacred to all Hindus. They pray, and often honor her by touching her tail to their eyes.

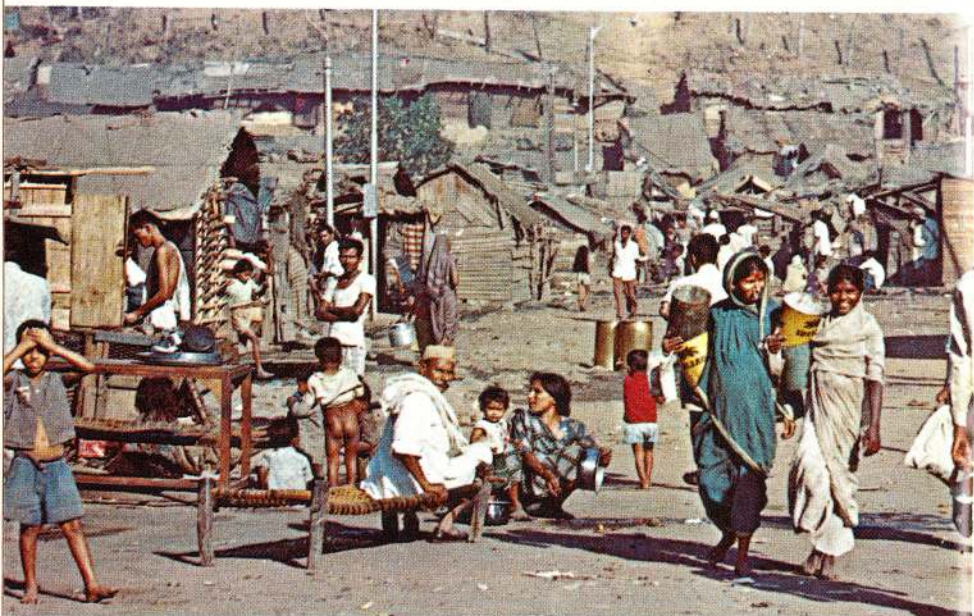
productive. They are noted for hardiness, and gentle dispositions. When well fed, most compare favorably with Western beef breeds in both productivity and quality. As work animals, their bullocks are noted for willing, industrious work and a very rapid pace. Several breeds produce an abundance of rich milk, even by Western dairy standards. And a few Indian breeds are as adapted to producing both meat and milk as are the Red Poll and the Dexter.

But feed is a problem. Many Indian cattle, instead of grazing in a pasture, are kept tied to a post and are fed a daily portion of fodder that is cut out of the field by hand.

Now look at another and growing problem.

Irrigation Problems

An ancient but very widespread Indian practice is that of irrigating by treadmill or other hand means. Although many



Wide World Photo

A rural community in India. Age-old traditions, antiquated methods, and poor education prevent India from agricultural and industrial advancement.

water pumps, wells and tubewells have been installed across much of the farming community, a great amount of the area that is actually irrigated is still being watered by old-fashioned methods.

It is *common* to see bullocks harnessed to an ancient device drawing water for irrigation. Another common sight is that of men laboriously riding a long pole up and down over a well, struggling to raise enough water to keep their meagre crops alive. Of course this type of irrigation can be used *only* on small plots.

Even more tragic than the use of the outdated and ineffective methods is the fact that many farmers who could vastly improve yields, resolutely *refuse* to irrigate their farms, even when the Indian Government offers them free water.

In her well-presented and documented book, *Blossoms in the Dust*, Indian authoress, Kusum Nair, quotes an official of one

of India's major irrigation and hydro-electric schemes (the Tungabhadra Project).

He said: "We carry manures and improved seeds in a trailer and offer to deliver them right at the doorstep to induce these cultivators to use them. We offer them loans to buy the seeds and manures. We go to their fields and offer to let in the water for them. We request them to try it out first in two acres only if they are not convinced. They could *quadruple* their yields if they would only take our advice and at least experiment. Still they are not coming forward."

This water was offered to the farmers *free* for the first **THREE YEARS!**

Stifling Traditions

And why wouldn't these farmers accept this free service? Simply because it *wasn't the custom* to do so. Their fathers, grandfathers and great-grandfathers before them had farmed the land and had not used irrigation water, so why should they?

Kusum Nair said in the introduction of her book, "But people do not always believe what they should believe or are expected to believe. Their beliefs are often obsolete — the products of dogma and tradition, the reasons for which have long ceased to exist. It is easier to build a million-ton steel plant — with borrowed money and hired know-how, if necessary — *than to change a man's outlook* on such matters as the use of irrigation water, fertilizer or contraceptives."

It is this *illogical pursuit* of dogma and tradition by the masses that holds to a minimum any real development in agricultural or industrial production.

Proper education — and that does not mean decadent Western education — would help solve the agricultural problems. Both adult education for all and a more widespread and thorough education of children. That would be a major step in the right direction toward finding some solutions, but only if properly used.

Education — Often a Hindrance

Education alone is not an infallible instrument. Without a corresponding change in the social attitudes connected with

education, schooling beyond the third or fourth primary class is often a hindrance.

Listen to this startling statement by Kusum Nair: "They told me in the village of Gopalpura: 'We never send a boy meant for agriculture to school beyond the primary stage. Farming means hard work. Those who get educated will not do it. No student of Vidyapeeth will go back to work in the fields. Even if a boy becomes a graduate in agriculture, he is useless for work.'" Students who attend agricultural schools and colleges are only trained for government service and not to become more qualified, skilled farmers.

So strong is the class and *caste consciousness* of most Indians that schooling constitutes absolute divisiveness in much of that country's society.

A young man, who was a university graduate said, "I would not so much as light my father's cigarette, because he is uneducated and illiterate." Such is the attitude of many class-conscious educated Indians.

A young male schoolteacher said frankly: "A boy who has attended school up to the seventh or eighth classes and who, while with his friends, sees his father working in the field, tells his friends that, 'He is *not* my father.' He feels so ashamed of him."

This is a sad product of today's education in India. In order for India to make the technological, industrial, agricultural and social progress she so vitally needs, there must also be a drastic change in the *basic attitude toward education*. But this desperately needed change is not being effected rapidly enough.

Lack of Incentive

India's farmers, being uneducated, *lack* incentive — have an unwillingness to change the status quo. This makes true improvement and advancement virtually impossible!

Most people in the United States, Great Britain, Australia or other developed lands *want* to improve their capacity to feed, clothe and house their families.

But not so in India.

Kusum Nair stated: "Planning in India is framed on the

assumption that the *desire* for higher levels of living is inherent and more or less universal among the masses being planned for. According to this assumption, every prevailing standard of life becomes minimal as a base for further progress. From what I have seen and experienced, however, it would seem that a great majority of the rural communities DO NOT SHARE in this concept of an ever-rising standard of living.”

How true.

Lack of *will to change* was undoubtedly the deepest impression gained by our correspondents wherever they went. The basic attitude is to produce barely what is required and no more.

If a farmer feels he only needs to produce two bags of cereal grain a year, then that is what he works for and no more. Besides, he's hungry and tired, so why work harder than necessary. Government and educational leaders have not gotten through to him that if he were to work a little harder, produce more, eat better and feel healthier and stronger he wouldn't be so weary of life.

Some sixty-eight percent of India's adult population is illiterate.

This fact alone constitutes an enormous obstacle to the Indian Government's attempts to solve her mounting economic problems. Little progress and precious little national unity can be achieved while such a large percentage of the population cannot read or write.

As one Indian, one of the country's leading experts on land reform, said: “Nowhere in the world is there an illiterate people that is progressive. Nowhere is there a literate people that is not.”

The ability to read taps the accumulated knowledge of mankind. India needs to be able to utilize that fund of experience and learning.

National Unity a Myth

Westerners may not realize it, but India today is one of the most *divided* nations on earth.

A united India — that is, a single Indian nation — simply

did not exist before the arrival of the British! Instead, the subcontinent was governed from numerous regional power centers, some of which managed to gain the ascendancy for varying periods of time. There was no national cohesion or unity. Under Britain, India began to achieve a measure of unity — but real unity is a far-off goal. The religious, language and racial riots which have flared up so frequently since the British left, conclusively demonstrate that real lasting *unity* is not just around the corner.

One of India's leaders warned in 1957: "India stands the risk of being split up into a number of totalitarian small nationalities." This was stated in an official Language Commission report.

In the past, conflicting regional interests had a centrifugal effect upon Indian politics and power, causing a concentration of power at three or four major centers — Calcutta, Bombay, Madras, Delhi. *Today* the same pattern can be seen developing.

But India's present position is more precarious than at any previous time. She has never before been faced by the threat of uncontrollable *famine*, simultaneous with the divisive forces of conflicting regional interests.

Another element in the lack of cohesion is the language riots. Feelings over regional language differences run deep in India. In fact, in Nehru's time Indian state boundaries were drawn up to coincide with the language boundaries that existed. Many Indians feel this was one of the biggest mistakes Nehru made as Prime Minister.

The language riots which the nation experiences principally result from the government's decision to establish Hindi as the official language. Many other lingual areas do not speak Hindi at all and feel that English should have been left as the common language, since more areas understand English than Hindi or any other single Indian dialect. It is interesting to realize that the venerated Ghandi, who is considered the "father" of India's independence from the British, had to use the English language as the most common and only effective

means of rallying the Indian masses to achieve their “freedom.”

Another major problem causing division is that of state rivalry. Surprising as it may sound, it is common for one state to *refuse* to help another state during times of drought and famine, or other calamities and crises.

Overpopulation a Mammoth Problem

You never get the feeling you are *alone* in India. Wherever you go at whatever time, there are people, people and more people.

India's government, ever ready to present a favorable picture of its accomplishments, talks in glowing terms of its birth control program. Yet the program is woefully inadequate.

At the start of the program in 1951, India's population



P. A. George, Ambassador College

A poster encouraging family planning and birth control. Such programs get little cooperation, and India's already burgeoning population continues to grow.

increase rate was about 1.3% a year. Today it is climbing toward 3% per year. When the program began, the country's population was close to 370 million. Now it is approximately 540 million. What has nearly 17 years of effort done to establish birth control? It is reliably estimated today that *only two to five percent* of the reproductive age couples systematically practice contraception.

Why is the program not succeeding? The main reasons are religious prejudices, sheer ignorance and the lack of any motivating desire to control birth.

"Villagers do not worry much about the number of children they have, no matter how poor they might be. Not to have any issue is considered to be a much greater disaster than to have too many" (*Blossoms in the Dust*, Kussim Nair). One of the big obstacles is the religious sentiment that it is the *duty* of the woman to bear children, so why try to control the birth?

The Curse of the Caste System

There is an almost universal *fatalistic attitude* that pervades India from the halls of Parliament House in New Delhi to the humblest hut in her thousands of villages.

This individual fatalism is a philosophical and unresisting acceptance of the present pitiful condition no matter where it is or what it might be. This fatalism is an integral part of an Indian's nature — his basic outlook on life.

The overwhelming majority of India's people bear allegiance to the Hindu religion. But whether Hindu, Muslim or Christian, Sikh or Parsee, *no one* in India escapes the ever-present, all-pervading effects of fatalism.

Fatalism provides the foundation for the "Caste System" which pervades all India. It has divided India into thousands of castes, sub-castes, and "out-castes," with *no* common interest or aspiration.

At birth, every Indian's die is cast — if you'll pardon the pun — in the mould of the oppressive caste system!

Indians want to rise to some higher caste in the *next* life. So, without complaint or protest, they accept their present

plight, faithfully performing the duties of *this* life, even if it is in detachment and dejection, no matter how heavy its burdens might be. For this reason personal degradation is accepted without fuss, and many even take pride in poverty and illiteracy.

This acceptance of caste is so strong that no matter how unqualified or incompetent one may be for performing his duties, there must be no change.

Indian government officials are asking, How can "caste" be eradicated?

Attempts have been made since the days of Buddha to wipe it out, but with little or no avail.

The Indian Government has tried to weaken the hold "caste" has over the people by educating them, by granting them equality in the eyes of the law, and through new technological and economic influences.

Yet all these have so far been unable to make any appreciable dent in the problem. Unwillingness to change is still overwhelming. Many of the educated still *refuse* to work with their hands, even if it means going hungry and being unable to provide for an ever-increasing family.

And further, India's feeble attempts to lower the birth rate are not going to control India's population growth. Eventually it will be famine and disease that will check India's skyrocketing population. The problem is too many are producing children but not providing for them.

More and more Indian babies — over 21 million annually— are being born into this land of despair, hopelessness and disease. An ever-increasing number of them in families that cannot or do not provide for them. If foreign nations ship in food to stave off starvation, it just increases the number of children who are not provided for. And it adds to the number of parents who do not provide for their children.

When one realizes the deep internal problems of India — which are little different from those of other "have-not" nations — how foolish are such panaceas as algae farms, fertilizer, hydroponic farming, and other ideas advanced as answers for potential famine.

UNITED STATES OF AMERICA
DONATED BY THE PEOPLE
OF THE
UNITED STATES OF AMERICA

NOT TO BE SOLD OR EXCHANGED

WEIGHT
NET

50 POUNDS

CONTRACT NO. GRIPI/688

USE NO HOOKS

CARE-INDIA

166-66-9-002

Chapter Five

Can Science Save the World From Famine?

FROM 30,000,000 to 40,000,000 people perish every year because of malnutrition or starvation, although no one really knows the true figure. Hunger is still a fatal scourge of the modern, "progressive," "enlightened" 20th Century!

Much of the problem stems from the large number of children born worldwide.

In Mauritius it is said women marry at age 15 and are pregnant for the *rest of their lives!*

Modern science stamped out malaria in the tribe of one African chief. The plague had previously claimed the lives of 8 of 10 children. Now all would live to adulthood. The doctor in charge asked the native chief if there was anything else he could do for him and his people.

"Yes," replied the chief. "Tell me who is going to *feed* all these children?"

The doctor had no answer.

The Hell of Tomorrow

But can Science — with its weapons of modern technology, its chemicals, its vast research and knowledge — save the world from stark FAMINE in the future? A crisis, for which, it is in a sense partially "responsible?"

First of all, let's notice the odds against Science.

To make effective progress in the fight against famine,

money is necessary. Asia, with 53 percent of the world's population, only has 12 percent of the world's income. Africa, with 7 percent of the world's people, only has 2.5 percent of the world's income.

Not very encouraging!

In Asia, there are very few scientists among the population. Millions have never seen toilet paper, much less indoor plumbing!

In many poor countries there is only one doctor for every 50-75,000 people. He probably covers 15,000 square miles and never reaches some isolated parts of his territory.

Take another indicator of the backwardness of the underdeveloped nations. There is one dentist for every 2,000 people in the United States. Britain has one for every 2,200. On the other hand, 150,000,000 people living in African nations had only 250 trained dentists at last count. Five nations with 60 million people shared 50 dentists! — less than one dentist for every million people.

The point is *not* "We need more dentists." This is merely an example of the low number of educated people in underdeveloped nations.

Where Poverty is Rampant

Today, as you draw breath and probably eat a sumptuous meal, 400,000 people in Caracas, Venezuela eke out a bare subsistence, living on whatever they can beg, borrow or steal.

As you sit before your television set, watching a movie, over 300,000 people in Bombay sleep out-of-doors, with no roof over their heads. Another million and a half in Calcutta — called the "worst city in the world" — sleep in doorways, holes in the wall, on streets, under cars, on benches, or under bridges!

By 1986, estimates say that 12-13 million will be crammed into the slums of Calcutta.

This is the world, today, that you live in!

In Lima, Peru, almost a third of the population live in "barrudas" — settlements of old pieces of wood and sheets of

iron with one water tap and toilet to every one hundred families!

But today's tragedy is nothing compared to the "hell of tomorrow" expected in Asia, as one Asian writer put it. By 1986, another BILLION PEOPLE could be crowded in the already overcrowded, teeming confines of Asia, struggling for survival!

Today, the average American eats about 4.66 pounds of food a day. However, the average Indian eats 1.23 pounds of food daily, 85 percent of it rice. In the Far East, 73 percent of the diet is starchy cereals and foods, as compared to 25 and 31 percent in the United States and Britain, respectively!

In North America, 40 percent of the diet is milk, meat, eggs and fish. In Britain, 25 percent; in Africa, 11 percent; in the Near East, 9 percent; in the Far East, only 5 percent!

What can Science do in the face of such overwhelming odds?

Some Deny the Problem

Some scientists and leaders, absurd as it sounds, even deny that a problem exists of overpopulation! They refuse to face the crisis claiming, "Census statistics in underdeveloped countries are unreliable. The population explosion is a HOAX!"

Strangely, however, whenever errors are found in such statistics, they *always are too conservative!*

Fact: India's census of 1961 actually revealed 8 million *more* people than had been estimated. Egypt's last census revealed extra millions. The same happened in Pakistan, Brazil, Ghana, Mexico and other nations.

Some deny the problem by claiming the earth has unlimited resources.

"Overpopulation will not exhaust our world resources. Our potential resources are limitless," these critics claim.

This a truly a hoax. Notice the alarming facts: The United States, which comprises only 6 percent of the world's population, consumes *one third* of the world's raw material production. In America the average person uses up 18 tons of various materials per year. Much of this is imported. Annually,

the average American uses half a ton of steel; in India, the average is only 25 pounds per person!

As the other 94 percent of the world's population grows in industrial demand; as other nations attempt to match the United States in material usage — what's going to happen to our so-called "inexhaustible, limitless resources"?

Between 1900 and 1950, the population of the U. S. doubled — but our use of minerals increased eight times, and our use of fuels multiplied *thirteen times!*

Clearly, as world population continues to soar, the world's resources are going to be hard-pressed to meet the demand. The drain will be unprecedented. We must keep in mind that the world is a finite planet. Its resources are NOT endless. Inevitably, the day of dire reckoning must come.

Witness how we are already threatening this planet with air, water, heat and solid waste pollution.

New Foods

"Science will develop new foods that can be mass-produced to feed the world's hungry," cry enthusiasts.

One promoter of this idea claimed, "Food technology . . . now stands on the frontier of a fantastic new development which can produce protein foods high in quality, low in price and easily distributed."

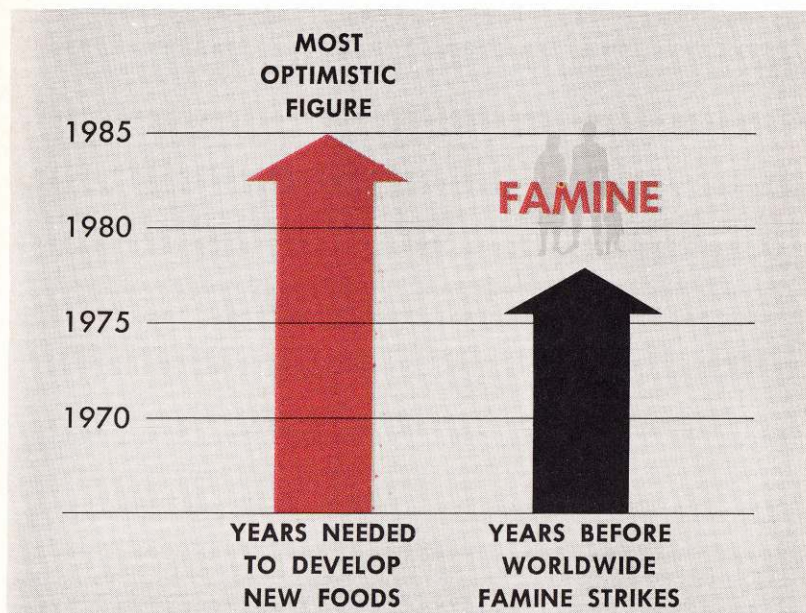
But will such new foods eliminate the starvation crisis?

Remember, these foods would have to be produced in the next eight to ten years. Because that is when WORLDWIDE FAMINE will probably begin to strike.

Even if such "foods" were good, most are hardly in the test tube stage. Many are still being researched. What about production? Distribution? Education of peoples to USE them? Who is going to pay for the research and development? Some nations are in such turmoil and warfare, it is virtually impossible to enter them.

It seems few think about these problems.

Scientists are also excited over advances made in synthe-



sizing amino acids — components of protein. They envision the age when man will produce protein in the laboratory. But such ideas — even if good — are dreams today.

Is There Really Time?

In a book edited by Clifford M. Harden, United States Secretary of Agriculture, this admission is made by an expert:

“There are those, of course, who put their faith in non-conventional agriculture, in the biological or chemical synthesis of foods.

“Undeniably, progress is being made toward farming the oceans for new sources of protein to be found in fish, shellfish, and unicellular algae, toward synthesizing proteins from petroleum with micro-organisms, and toward developing leaf protein as a supplemental food — to mention only some examples of the research currently under way.

“*The time has not yet come*, however, when factories can produce the bulk of basic foods that more than three billion human beings require. We cannot wait for potential miracles

while millions of people hunger. For many decades still we must depend on conventional agriculture and its improvement" (*Overcoming World Hunger*, edited by Clifford M. Hardin, p. 93).

But the problem is we simply *don't have* many decades to "solve" the problem. Other experts admit that countries with burgeoning populations must depend on increasing *their own* agricultural resources.

An Example of "New Foods"

The authors of the book, *Famine — 1975!*, mentioned a prime example of new foods — Incaparina. It is perhaps the only well-known "food substitute" on the market in underdeveloped nations.

With a flurry, newspaper headlines screamed, "Incaparina Will Solve Child-Feeding Problems." This conglomeration of corn, cottonseed meal, and tortulla yeast has been praised in countless meetings of nutritionists. Leading companies poured many dollars into advertising. It has been called "one of the great achievements of science."

Incaparina was ready for marketing in 1957. Where is it over a decade later?

"The impact of Incaparina on Central America *remains insignificant*. . . . Quaker Oats conducted a major campaign to sell its brand of Incaparina but with discouraging results" (*Famine — 1975!*, William and Paul Paddock, page 66).

The biggest problem is consumer acceptance of the tasteless and bland goo.

Back in 1954 a new idea stirred the imaginations of scientists and especially nutritionists. "Let's grow algae" was one idea. Some claimed they could produce 40 tons of algae per acre.

This formed part of the plan to produce hydroponic food — food grown without the use of soil, if necessary.

But who is eating algae bread today? And how much hydroponic farming is really being done? Very little. It's just too expensive and too delicate an operation. Remember, this



MAJOR FISHING GROUNDS OF THE WORLD

Fishing grounds in the world's oceans are *not* as prevalent as many people assume — and nations often bicker and squabble today over the world's limited fishing resources!

is fifteen years after the pilot programs were around. We probably don't have another fifteen years left.

"The sea is a limitless source of animal protein," cry the optimists. The ocean does grow, it is estimated, some two billion tons of fish per year. If caught, this could be enough animal protein to sustain ten times the population now on earth.

But some fish are already showing signs of possible extinction — they are being overfished as it is.

Many fish, frankly, are *not fit* for human consumption. And how are you going to *educate* people who regard seafood as a religious taboo — so strongly they will die rather than eat?

And what about increasing production?

Of course, you have to make a venture economically feasible to make it work. You must have enough scientific knowledge of how, when and where to fish. And you just can't fish indiscriminately. There must be some effort to *conserve* the resource.

All in all, it's quite evident that even a concerted effort in this direction would hardly make a dent in the world's food problems.

Harvesting the Oceans?

With millions of diatoms in a quart of sea water, with over 15,000 different plankton species, producing 40 billion tons of

organic matter yearly, man has desired to turn to the oceans to feed the starving millions of "have-not" countries.

This idea began the program of finding some way to harvest and use ocean produce — in whatever form — to feed people. The Sargasso Sea has 7 million tons of seaweed scattered throughout its 1,000 to 2,000 mile area. Estimates have given the number of plant cells beneath each square foot of ocean surface at 240 million!

Can all this animal and vegetable matter be used for human consumption?

In the rich Antarctic seas, a baby blue whale puts on 80 pounds a day, to grow to 65 feet in length by his second birthday. The blue whale is a filter feeder, straining krill from the rich, cold Antarctic waters. Why can't man use "krill soup" to feed the starving millions?

Scientists wondering about this went to Antarctica to see what they could discover. Dr. Willis E. Pequgnant, zoologist at Texas A & M University, found that an average acre of ocean produces 1,000 pounds of krill. This compares to rich pasture land which might feed — and in a sense "produce" — 700 pounds of cattle or sheep per acre. Based on his calculations, he believes that krill trawling might be more profitable to Antarctic whaling vessels than whaling!

Other scientists have envisioned artificial, atomic-powered "whales" which would gulp krill by the shipload, regurgitating it later to be processed for food!

One scientist asked: "Can we not save starving people of the world with krill?"

Can we?

There is not long to think about it. Again, the answer is "No!" Most of these are dreams for the future.

Other statistics prove that some nations are already "beyond the point of no return" — that they cannot remotely keep up with the population explosion. And today's technology *has not yet developed* any way to extract the huge quantities of "food" from the ocean to feed the world.

And to show man's utter incapability of utilizing the oceans for food, consider this example.

For a man-made plankton gatherer, under ordinary condi-

tions and temperature of coastal waters, to strain enough plankton from the water to equal a pound of beans in nutritional equivalent, you would have to strain the equivalent of fifteen one-story houses full of water! In very rich areas like the Gulf of Maine, or North Sea, some 5,000 tons of strained water would yield 10 pounds of plankton!

Fantastic!

Turn to the oceans for food? *Impossible.*

A tiny fraction of the world's food supply comes from the sea. And with the vastly complex problems of getting the enormously greater amounts needed, it seems highly unlikely that man will make the drastic technological advances needed for these huge increases.

Flour of the Sea — FPC

Other experiments in food production from the sea have included the development of FPC, or fish protein concentrate, lauded to be a panacea for part of the world's hunger problem. Tasteless, without smell, it looks much like ordinary wheat flour.

It can be made from just about any kind of sea life — fish, shellfish, shrimp, krill, etc. *The whole animal* is thrown into a chemical and electrical processor which purifies and processes the mass into a white powder. This powder, rich in raw protein, can be produced very economically. Mixed with other food, FPC would supposedly supply the needed protein for nations with starving populations.

Of course, you don't see very much FPC in your supermarket. It's similar to another idea proposed about 15 years ago — the idea of growing *algae* for food in mass quantity. But when was the last time you saw someone eating "algae bread" or an "algae burger"?

Even with all the promises of plankton gatherers, FPC, algae farming, and other uses of the oceans' food resources to save mankind, some scientists don't really believe — even

though they would like to — that there is much hope in these “miracles.”

Here’s one. After citing his optimism, that man can solve his food problem by exploiting the sea, the author concludes:

“Undoubtedly the use of food from the sea will continue to grow. But MUCH TIME would be required before major reliance could be placed on the ocean as a means of meeting world food needs” (*Overcoming World Hunger*, by Clifford M. Harden, pp. 68, 69).

But there isn’t much time left!

So, in reality, the solution of new foods — be they synthetic or natural — cannot even be produced in time to avert the coming famine.

Agricultural Research — Will it Help?

“We need more agricultural research, greater irrigation, new pesticides and fertilizers — these are the answers,” some experts claim.

Is this true? No doubt, more research is very important to solving the problem. But are these scientific panaceas the answer?

Mammoth research projects, costing billions, are necessary to even begin to cope with the problem. And the fact is, only an *infinitesimally small* amount is being spent on these projects!

Geochemist Harrison Brown estimates that to bring a worn-out field into high productivity requires about \$20 worth of materials and labor. He estimates that to double world food production by farming more intensively and increasing productive acreage would cost in the neighborhood of *100 billion dollars!* Another authority estimates it more conservatively at \$80 billion.

But the average income per person in the poor nations is less than \$100 per year. Where are all these billions of dollars coming from?

And, look at what has been developed!

New pesticides are already so powerful that they kill off

animal life, bird life, fish in our rivers and streams, and beneficial insects as well as the "pests." The use of these chemical killers is at best of dubious value in the long run!

The Fertilizer Delusion

Many people are under the delusion, all we need to do is ship more fertilizers abroad.

This is not true.

Fertilizer is expensive. How can you convince somebody he ought to use it? The underdeveloped nations have 55 percent of the world's land, but only 10 percent of the fertilizer. And they use most of it on *non-nutritious* crops — ones that they can *export*. Finally, fertilizer must be used very carefully — too much or the wrong kind can destroy the crops and the soil. Careful analysis of the soil must be made first to determine what it is composed of.

Rice farmers in India pay three or four times as much for fertilizer as farmers in Japan. Besides, most farmers in India don't want to grow more food. They grow just enough for their own family.

An authority admits this about the use of fertilizer.

"There also have been those who believed that the problem could be solved by a single remedy. One of the most *widespread misconceptions* has been the idea that the massive application of modern manufactured inputs — fertilizers, or pesticides, or machinery — to agricultural production in less-developed nations can quickly convert a pattern of underproduction to one of sufficiency. The fallacy of this belief as regards fertilizer use has long since been exposed" (*Overcoming World Hunger*, by Clifford Harden, pp. 105, 106).

Let's face it. Population is growing so fast that it is outstripping science's challenge. New plant strains, fertilizers, and food sources are not meeting the challenge, nor will they for several more decades to come — if ever!

And what about new strains of wheat, rice and other agricultural products. Let's take "miracle rice" — currently lauded as a cure for food shortage. This "miracle rice" was

developed in the Philippines with the aid of Ford Foundation funds.

“Miracle Rice?” — Not Really

A U. S. Agriculture Department expert recently warned that the new varieties of so-called miracle rice may help the hungry Asians now, but later the grain may fall prey to exotic ailments.

This assessment by Quentin M. West, director of the Foreign Regional Analysis Division of the Agriculture Department includes the warning that the rice “in time, will become susceptible to local diseases and insect damage.”

“It is highly probable that new micro-organisms, previously unimportant, will become major causes of disease as field micro-climates are altered by heavy fertilization and the dense plant population of the new varieties.”

West also cautioned that “without large investments in irrigation facilities, the potential of high-yielding rice varieties will not be realized in Asia. The older (and most of the new) irrigation systems in this area were not designed to control the water level in individual fields but to provide a constant flow of water from upper to lower fields. Continuous flow results in loss of fertilizer and plant-protection chemicals.”

West made these other observations on the rice.

“In many areas lack of drying facilities for harvested rice may impede the spread of the new varieties, which mature during the last part of the wet season. If harvested rice is not dried, it *rapidly spoils*. In 1967 in the Philippines the new rice had to be sold at a DISCOUNT because of a shortage of drying facilities and its inferior quality.”

Another “miracle” not powerful enough to solve the world’s hunger problems.

Use More Land?

“We can meet the problem by increasing our agricultural acreage, putting more land into productivity,” some think.

Is this realistic?

Can new farmland meet the challenge?

With 70 million more mouths to feed each year, millions of new acres are needed each year just to keep the world fed at its

present miserable level! Dr. Binay Sen declared in 1963 that to improve nutrition around the world would require DOUBLING WORLD FOOD production by 1980, and doubling it again by the year 2000 A.D. Even by very conservative estimates food production would certainly have to be doubled by the beginning of the next century — just to keep the world's population at today's nutritional level.

Here is what really happens when increased acreage is opened up. In Pakistan, four thousand square miles of desert was brought into cultivation. It was thought this would make possible the feeding of a number of people previously on the verge of starvation. The fact is, however, after a few years a larger number of people were on the verge of starvation instead of a smaller number!

Unfortunately, 17 percent of the world's land is desert — much of it *man-made*. Man has the sad record of upsetting the balance of nature wherever he goes, causing floods by removing forest cover, ruining land by improper cultivation, causing erosion and dust storms by his reckless greed for profits.

Little Good Land Left

It is wishful thinking that putting larger areas of land under the plow will grow enough food to feed the world.

Much of the land in most countries is unsuitable for farming — too precipitous, rugged and mountainous — and the soil is too poor. For example, only 5 percent of Canada is ideal or useful for farming. Tropical forests are out of the question — too many horrendous problems and too much expense is involved to bring them into any kind of reasonable production.

Only 1 percent of Australia is cropland; only 2 percent of Brazil. Only 10 percent of China. The Amazon basin of Brazil covers over one million square miles, but only about 200 square miles are suitable for cultivation. Unfortunately, equatorial soil fertility is low — most of it is laterite, a poor reddish soil leached of its quality by the heavy rainfalls of the region. Too little is known about *how* to improve tropical soils; how to develop strong plants to resist the virulent tropical plant diseases and insect attacks.

Lack of good roads and adequate transportation is another



King Leopold Photo

Roadbuilding in the Amazon Basin, Brazil. Contrary to popular assumption, farming experts have discovered that tropical rain forests are virtually worthless as farmland.

severe problem in much of the world. Lack of storage facilities hampers production in *old* areas — not to speak of new areas.

Losing Good Land

Around the world, only 10 percent of the world's 57 million square miles is presently arable. Another 20% is permanent pasture land. To feed the mushrooming millions, more land is needed which can be cultivated profitably. But where is it going to come from?

At the same time, according to J. H. Scott Watson, in the *Agricultural Institute Review*, an average of 13 million acres are being lost to the world every year because of erosion! Every day 36,000 acres are lost. Man seems bent on destroying himself by his agricultural practices. By cutting down the forests, he is destroying the land. It happened in ancient Babylon, Syria, Persia and Carthage. It happened among the Mayas and Toltecs. It is still happening today.

Agricultural experts tell us it takes 400 years to build up an

inch of topsoil. That inch can be washed away in just one flood!

Seven eighths of America's virgin forests were cut down before people realized what was happening. Deserts have grown and advanced in many parts of the world for this very reason — the ignorant deforestation and wrong farming practices of those living on the desert rims.

According to biologist Georg Borgstrom, "the deserts have grown on an average of 25 million hectares (62.5 million acres) annually . . . The boundaries of both the Sahara and the Kalahari deserts are being pushed a couple of miles farther out each year, and this due to man's intervention" (*Too Many*, p. 296).

The distinguished Belgian botanist Raymond Bouillenne wrote, concerning his studies: "In short, we are in the throes of an apparently irreversible progressive reduction of the surface of cultivable lands. It is estimated that the area of such lands on the earth has decreased by 20 percent in the last hundred years. Of the 40 billion acres remaining today, at least 20 million disappear irretrievably each year."

Reclaiming the Amazon Basin

A few years ago one of the biggest crash programs ever devised was begun to provide more food for the world. The idea was to cultivate more acres of fertile farmland by reclaiming the rich soil of vast river basins, such as the Amazon Valley in South America.

Scientists, engineers, and farming experts were imported in order to study the idea of bringing additional millions of acres into production. But an alarming fact was discovered. Tropical rain forests are denuded of rich topsoil. The rain forests of South America, Africa and Asia are virtually worthless as arable farmland!

In the Amazon Valley, where hopes were originally the highest, the farm project ground to a shuddering halt. There was too much iron in the soil for profitable farming. Cultivation was impossible, after all!

Food Wastage

Increasing production is commendable; but stopping food wastage is more crucial. The amount of food around the world



that is lost to rodents, insects, birds, rot, and vermin is truly enormous! In India, according to one estimate, fully 50 percent of the food grown is lost to such pests. Some put the figure of destroyed food lower. But in any case it represents a tragic waste!

Food losses approach \$10 billion yearly, according to a report published by the Central Food Technological Research Institute in Mysore, India.

In Brazil, the food lost to rodents and pests is estimated at 40 percent. Africa loses about 30 percent of its food production in the same manner!

If India could prevent such losses from pests, she could not only become self-supporting in food, but have an annual SURPLUS! Pests alone consume more than the 6 million tons of grain we send to India every year!

In one recent year, 85 million tons of food were lost to pests worldwide — enough to feed *one-tenth* of the world's population for one year.

The Aswan Dam

The Aswan Dam was to be completed in 1972. Soviet aid is helping the Egyptians build this highly prized dam. Which,

according to one authority, will increase Egypt's arable farmland by 30 percent or one million acres.

Will this stupendous achievement save Egypt from famine — provide more food for her teeming millions?

Not at all!

Note these facts. The timetable for completion has been revised. The dam cannot be filled with water until 1975. Secondly, the 1960 census revealed there were actually two million more people in Egypt than expected. By 1975, nine million people will be added to the population. One authority estimates, the dam will provide food for *less than one third* of the additional population. Egypt is on a FOOD-POPULATION TREADMILL, unable to keep its head above water, running fast but getting nowhere!

Some other authorities are less pessimistic. Their statistics claim the dam will provide 1.5 million new acres for production and allow double-cropping on millions more acres.

But even the most optimistic authorities admit, "Egypt's ratio of land to people will be the same as when work began on the dam nine years ago." (*Time* magazine May 16, 1969, "The Painful Presidency of Egypt's Nasser").

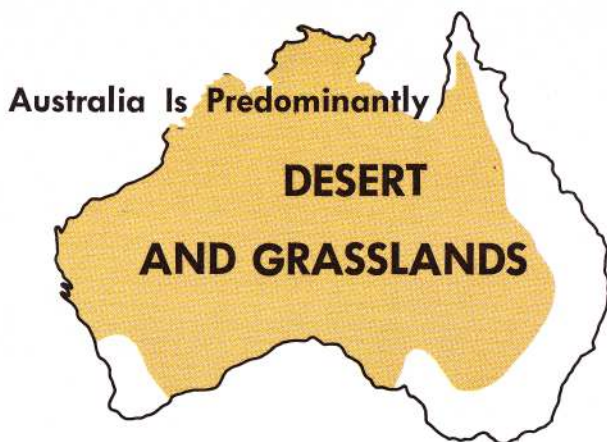
Actually, nearly every acre in the world that can be cheaply irrigated is already in production. To irrigate more land means more money. For example, prime Iowa land may sell for \$600 per acre. The Aswan Dam project is costing Egypt \$1400 for each new acre irrigated.

The same could be said for country after country. The world is not even able to STAND STILL in its race against impending famine!

Migrate to Open Up New Acres?

"We can solve the population problem by having people in crowded nations migrate to countries such as Australia or Canada and begin farming new acreage," some experts give as a solution to the population problem.

This solution may sound simple — it is really simple-



minded and ignores the vexing problems of transportation as well as the conflicts between nations.

First of all, estimates indicate that at most, under current conditions in Australia, that continent could support about 30 million people — not the 50-100,000,000 some people suggest. Remember, most of Australia is trackless desert and wasteland, incapable of supporting the additional millions! Precious few new acres are available. And it costs money — unavailable — to open them up for agriculture.

Brazil, also, is no haven of refuge — no El Dorado for distressed millions. It is mainly jungle. The reddish soil of the tropical rain forests is leached of its quality and will not support continual crop cultivation. The difficulties are enormous. Weeds grow profusely. Insects attack crops and devour them quickly.

But it must also be remembered that world population grows by 70 million every year. Therefore, even if you put 20 more millions in Australia, and additional millions in the United States and in Canada — you have only “solved” the problems for one year! Where will you put NEXT year’s 70 millions?

And we have not even discussed the transportation problem — arranging for the ships and food to take these millions to their new homes. Nor have we mentioned the setting up of

homesteads, farming the land, sanitary facilities, electricity, water, etc. This "solution" frankly borders on the hysterical — a panicky idea which simply will not work.

No agricultural revolution; no eleventh hour breakthrough in Science can stave off impending famine. It takes *decades* of vital research, an educated populace, the asset of good land, right climate to increase production, stable political situation.

None of these are currently available in any appreciable quantity in the undeveloped nations. There is simply no hope of progress toward an agricultural utopia.

Worldwide Birth Control

"Worldwide birth control is the solution. Japan cut her birthrate in half. So can other nations" is another panacea put forth for solving the world's population problem.

This, perhaps, is the greatest will-o-the-wisp of them all because it seems so convincing. If you can cut the world birthrate in half, you thereby cut the population growth in half. But talking about it is so much easier than doing anything about it!

The problems involved in cutting the world birthrate are stupendous. Much of the world actually STANDS OPPOSED to population control. Communism stands against it. Communists call Malthus' theory of population a "libel on the human race." Khrushchev called it a "cannibalistic theory."

Even many in the Western world stand opposed to birth control.

But this hurdle is only part of the picture. Ignorance and tradition are even greater obstacles to implementing birth control practices.

In much of Asia, for example, families are used to having as many children as possible. Children are a status symbol. They help do the work. A husband and wife try to have as many children as possible in the hopes that at least *one* male child will survive to adulthood. Then the child can support *them*.

Ignorance, a lack of doctors and nurses, also hampers birth

control planning. In India, for example, the country's five-year plan begun in 1966 envisioned 23 million loop insertions. The problems facing this program are overwhelming. Such has never been done before. There is a great shortage of doctors and trained personnel. There simply isn't enough time to *educate and convince* people to the need of birth control or family planning and explain how to achieve it.

India is trying to reduce the birthrate from its present 40 per thousand every year to 25 per thousand by 1975. In the spring of 1967, only five million Indian couples were using contraceptives. There were, however, about 46 million men of child-producing age!

Of the loops (IUDs) inserted, an estimated 25 percent failed. The most backward, poorest Indian states — Uttar Pradesh and Bihar — lagged in loop insertions. Said a woman doctor in Bihar: "In the clinic I run if we get three loop insertions a month we are surprised. I worked out the economics of the thing, and at this rate each insertion is costing between 800 and 900 rupees" (about \$107-\$120) (*Born to Hunger*, Arthur Hopcraft, p. 224).

Besides, people *love* children. They simply aren't convinced that "two or three children are enough." They begin their family planning *AFTER* they've had the number of children they want.

Population Control

Part of the answer to the population explosion does lie in family planning — birth and population control. At present, however, the human race is literally breeding itself out of existence! For much of the world, it's a matter of too little too late.

India for instance, has been working on family planning for 16 years. When the program started the population was growing at 1.3 percent a year. Today the growth rate is nearly **THREE** percent a year — having *doubled* after 16 years — and the population has crescendoed from 370 million to about 540 million!

What is the United States doing in this regard? Look at the

figures. In 1967 six federal agencies spent a total of \$33 million. In 1968, \$56 million was programmed for birth control and family planning. This was less than one quarter of one percent of the budget of the Health, Education, and Welfare Department!

This kind of puttering around is getting the world nowhere in a hurry!

By itself, "there is no realistic possibility that the control of human fertility can be a substitute for economic development" (*Overcoming World Hunger*, Clifford M. Hardin, p. 39).

Of course, the world needs family planning — but by itself, weak attempts at fertility control won't keep the world from famine.

When we add up all man's efforts to curb the population explosion, it seems to be like trying to stop a flood with a thimble. All the efforts of man — the new varieties of grain, harvesting the seas, developing new sources of protein from the oceans, etc., *ad infinitum* — only put off for a few more short years the final *day of reckoning!* — and make it WORSE in its final fall.

And Consider This

How really effective has science been in eradicating starvation? Not very. You see, science can't really solve one of the *biggest factors* that causes famines. That factor, is simply one of political disintegration. More bluntly put it means internal wars of race, religion, language. Or external wars of one nation trying to destroy another.

One author citing causative factors of famine said, "The greatest threat is that the loss of political coherence will bring a breakdown of public order, tripping off both famine and epidemic as in Biafra" (*Overcoming World Hunger*, Clifford M. Hardin, p. 22).

And what about Biafra?

In addition to the 10 to 12 thousand people starving worldwide every day, it is estimated another TWELVE THOUSAND were daily starving in the secessionist province of Biafra in late 1968. Some authorities and doctors who have returned

from Biafra said the true figure should have been about 25,000 per day!

Some were predicting that the entire remaining population of seven million in Biafra would face starvation in 1969.

Meanwhile, Pakistan — a former showcase of political stability — suddenly found itself open to internal strife. The nation of India, after its elections, was more divided than ever. Vietnam is being defoliated. China had its Cultural Revolution that nearly brought the country to its knees. These are some of the political crises on the world scene.

Each threatens to swing food supplies from a poor normal to a low catastrophic level. And, in fact, with the Biafra situation, there was more starvation in 1968 than in a number of years that went by before.

Yet, optimists and many scientists sit in their pristine laboratories or armchair think factories and tell us how new foods, increasing production, algae burgers, inserting more IUDs, and miracle strains of rice are going to save the world from famine.

When will we wake up!

Later Than We Think

It all adds up to this: the biggest, most explosive crisis to ever hit the human race!

Warns Dr. Georg Borgstrom, "On the whole, we can say that technology is an indispensable prerequisite for man's existence and progress. But it has bitten off more than it can chew. This applies to almost every area of its endeavors: plant and animal breeding, feed manufacturing, irrigation, energy supply, mining, forestry, chemistry, highway construction, electro-technology, sewage plants, food preservation, and so on. 'Do not worry, we have the know-how' — this has been the catch phrase, and this overconfidence is encountered even against overwhelming odds.

"When may we expect the sobering up? When are we going to return to reality?" (*The Hungry Planet*, p. 431.)

With scarcely a shudder or a thought, the world plunges toward the greatest cataclysm it has ever faced — a cataclysm

of staggering, unbelievable dimensions! The survival of this civilization is at stake — but who cares?

Said Dr. Borgstrom, and we echo his words: "...it is getting late. Time is running out on us. It is five minutes to twelve."

While nations race to the moon, spending billions in the process, the GREATEST problems facing mankind are almost totally ignored, overlooked. Too many have the attitude, "Don't rock the boat." They don't want to be reminded of sobering reality. They are lost in a fantasyland of pleasures, obsessed with the pursuit of the dollar, the pound, the ruble — or whatever. The world's preoccupation with ESCAPE borders on the insane, a sign of mental aberration itself!

The predictions of scientists and government leaders in the know are numerous — and dire. No one likes to look at an ugly picture. But famine dooming millions is now inescapable — right around the corner!

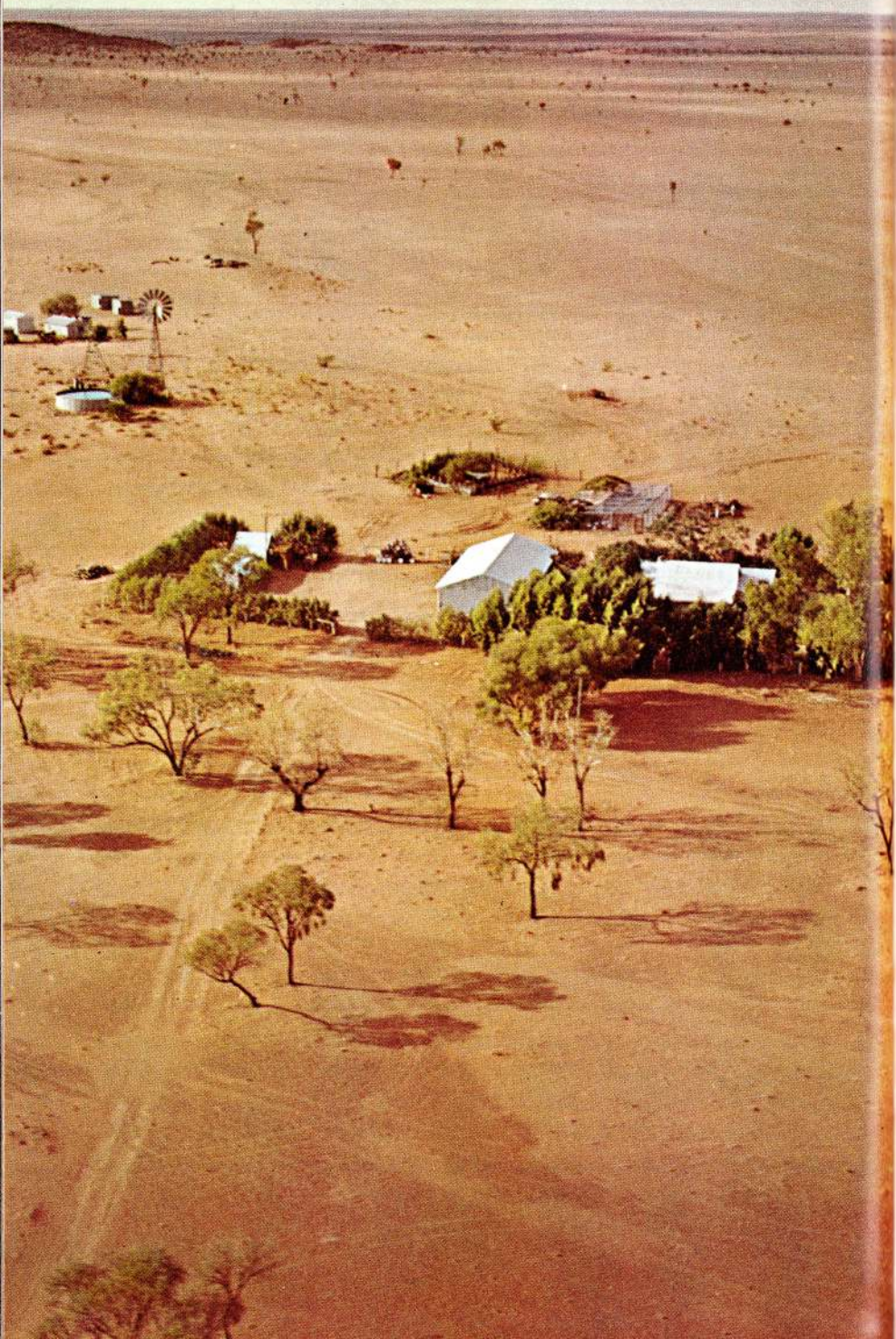
Starvation: Inevitable!

If you add up all the present efforts of mankind to face and solve the population dilemma, they add up to an ant hill effort next to Mount Everest! Man's attempts are comparable to a child trying to cover up the Great Pyramid with a little sand shovel.

But, overwhelming as the problem is, a Gallup Poll in 1963 revealed that although 70 percent of Americans had heard about the population explosion, *only one in four* thought it was worth worrying about!

A Louis Harris survey, in 1964, showed people thought the world's big problems were world peace, civil rights, juvenile delinquency, etc. No mention was made of the population explosion!

Isn't it time we got our priorities straightened out? Isn't it about time we began to realize what is REALLY important — what really matters?



Chapter Six

Famine Stalks the Earth

WITH SEVENTY million new mouths to feed every year, the population explosion poses a crisis and a threat greater than any in history.

Dr. Raymond Ewell warned, "The food-population problem seems likely to reach such enormous proportions, *even by 1975*, that it will DWARF AND OVERSHADOW all the problems and anxieties that now occupy our attention, such as the threat of nuclear war, communism, the space race. . . . These current political-military problems will *fade into insignificance* as the enormity of the world food problem impresses itself on the western world."

Operation SURVIVAL

Is there any hope famine can be averted? Can the food-population crisis be prevented? Can the population bomb be "defused" somehow before it is too late?

Remember Dr. Raymond Ewell's analysis: "It is my conclusion . . . that there really will be WIDESPREAD STARVATION in many parts of the world *during the next fifteen years*, in spite of the technical potentiality of preventing such a thing from happening."

The sobering fact is world starvation is right around the corner, regardless of how men would like to hide their eyes

from the truth! The *real* question is not whether there will be famine — but **WHEN!**

Even a growing worldwide water shortage is fast becoming a “race with disaster,” as former President Lyndon Johnson said.

“Either the world’s water needs will be met, or the inevitable result will be mass starvation, mass epidemics, and mass poverty greater than anything we know today,” the former president concluded.

Blind Faith or Insanity?

Despite seeming successes of high-yield rice and wheat varieties in Asia, scientists in the know predict there will be worldwide famine soon. Many experts see *no escape*. The cycle of increasing births will end in increasing deaths due to hunger.

Those few who look ahead into the year 2000 A.D., and who forecast a glittering world of a gigantic Disneyland, in which the human race will find everlasting happiness and plenty, have simply *ignored* the meaning and import of the present population bomb exploding in all nations!

Dr. Georg Borgstrom asks, “Do we really intend to continue along this road toward constantly growing billions? Are we going to condition our ‘have’ nations to the thought of eating algal soup, grass pudding, wooden beefsteaks — merely for the dubious pleasure of having still more hundreds of millions thronging an overcrowded globe? *Is it not time to make a COMPLETE TURN AROUND . . .* and be guided by knowledge of facts, instead of persisting in a make-believe world created by our concepts, images, and words, hoping for a miracle?” (*The Hungry Planet*, pp. 453-454.)

The fact of the population explosion will not be swept under the rug and hidden for long. Soon it will cover the entire rug and fill the room besides!

While nations spend multiple *billions* for moon rockets, just to place a man on the moon, billions left behind on earth

go hungry! Isn't it time we got our *priorities* straight? Isn't it time we had compassion for those starving on the earth, instead of wasting our resources in reckless ventures into outer space?

The Root of the Problem

Science often doesn't deal with the CAUSE of a problem — it deals with the *effect*.

Take the population explosion, for example. It stands to reason that if people didn't have such large families in poor nations, and if people made good use of the food supplies which often *are* available to them, and if farmers obeyed the agricultural laws of farming, so that cultivable land would *not* be senselessly eroded and ruined — the population explosion and threat of famine could be solved!

But, often ignoring these basic truths, passing over these common sense, workable concepts, science often rushes off to some piquant, new idea — such as making algae farms in the seas, or rocketing people off to outer space, or developing new synthetic foods from petroleum!

And when science *does try* to put these basic principles of agriculture and family planning into effect — it is almost totally resisted by a tradition-bound and uneducated populace.

The fact is, wrong education is at the root of the population problem. This world needs desperately to be re-educated, and taught how to farm, how to plan families, how to conserve land, what to eat, and *how to live!*

This knowledge is sadly missing in *most* of the world. Even the so-called "enlightened" nations are often guilty of mis-managing their resources, and exploiting the land!

Isn't it time we got back on the track of sanity?

A World of Ignorance

Nearly 45 percent of the world's children, today, have NO CHANCE of receiving a formal education. In India about 68 percent of the population is illiterate. In Africa, 80 percent

of the people cannot read or write. In Brazil, 51 percent have no real education; in Peru, it is 52 percent.

UNESCO estimates that 45 percent of all people over 15 years of age, in the world, cannot read or write!

In the non-Communist underdeveloped nations of the world, 750,000,000 adults cannot read or write. Of the 373 million school-age children in all underdeveloped countries of the non-Communist world, only 115 million go to school — less than one out of three. And of those who do attend school of some type, most drop out after one or two grades.

Lack of education therefore is a terrible restriction on food production. How can farmers be trained to use their land properly, fertilize properly, and increase production without even the equivalent of a grade school education?

How can parents be taught the merits of *proper* birth control and family planning?

When you dissect the problem, and narrow it down to its basic elements, it becomes obvious that the world food problem is basically a *PROBLEM OF EDUCATION!*

Clearly, to cope with the population problem, millions need to be taught the need to *plan their families*, proper sanitation and cleanliness, the use of proper fertilizers, contour farming, proper conservation practices, so the soil and the land are not overworked or depleted!

A giant program of re-education is a must if over-population is to be conquered and famines averted in the future!

Taboos and Superstitions

Unless some system of *right education* can be instituted to re-educate the millions on this globe, the human race is doomed. There are more than 120 nations with hundreds of differing languages, customs, religions and beliefs in the world today. They must be taught to work in co-operation with each other.

Shackling superstitions must be effectively abolished! Right living practices must be substituted, in order for nations to survive!

In Central Africa milk is commonly considered a vile body

secretion — repulsive as urine. Some tribes think milk will make women sterile. In East Africa, cattle are regarded as status symbols. They are seldom killed for food.

Cattle are sacred to Hindus, India's dominant religious group. Cattle roam through city streets, overgraze the land, browse on crops. The humans look on and die of starvation. Monkeys, as sacred as the cows, outnumber and eat more than the people of Uttar Pradesh, India's most populous state.

Many farmers throughout the world will not use manure because they consider it to be unclean. In India, dung is used as fuel for fire — seldom for fertilizer.

In Southeast Asia some think that eggs are the excrement of fowl. They show disgust and hostility to outsiders who eat them. A common belief in South Asia and Africa is that eggs and chickens, if eaten, destroy fertility.

Many African tribes think that fish are unclean or possessed of spirits. In Surinam, UNICEF workers ran across a food taboo that temporarily stopped them cold. Local custom had it that whatever a grandmother might dream becomes forbidden. Grandmothers began to see cows in their dreams; milk drinking slowed considerably.

Valuable food is wasted — a little here and a little there — due to thousands of superstitious taboos. A hunter refuses to eat venison lest he become timid like the deer. A man's goal is to sacrifice a thousand animals to dead ancestors. Some young girls will not drink milk lest they become spinsters. Families feed chickens; are afraid to eat them. Women suckle pigs but not their infants. Cattle are bred for length and shape of horns not for milk or flesh. Villagers use butter to make soap.

Ancient traditions, religious taboos, foolish superstitions — these must be abolished through *right education* in order to cope with the threat of malnutrition, starvation, and the population dilemma, or this world will never be truly happy, prosperous, and productive!

Needed: World Government

This means that RIGHT EDUCATION is needed to teach ignorant and impoverished millions how to live, how to farm,

what to eat, and how to practice the right methods of birth control!

Right education is needed to abolish international prejudice, rivalries, hatreds and bigotries. Right education is needed to teach the nations to work together effectively for the common good. This system of re-education would have to deal with moral values, and implement a vital *change* in human nature. It will take a stupendous effort to bring this world OUT OF CHAOS, ignorance, superstition and darkness.

But only then can the world learn *the way* to true happiness, peace, and the abundant life!

“A strong hand is needed from someplace,” said a leading world news magazine. And how true that is! A world ruling government is direly needed to avert massive threats of world war, world famine, world starvation, hunger and chaos!

And — believe it or not — very SOON, now, a strong WORLD GOVERNMENT is going to be established. But not the way *men* seem to think!

Soon all the divided, squabbling, disagreeing, disunited, fighting, bickering nations and governments in the world are going to be summarily dismissed and replaced.

It is going to happen — and YOU may live to see it!!

Make no mistake about it. A powerful world government is coming to this earth. It is now just around the corner!

Coming — A Wonderful World Tomorrow

FAMINE will be abolished. There will soon be plenty of food for all peoples left alive everywhere. Ignorant and superstitious food taboos will be abolished. Pagan beliefs and religious superstitions will be done away. The WHOLE WORLD is going to learn the right way to live — the only way to peace and happiness.

This is going to happen far sooner than you may think — but in the way you would least expect!

Soon there will be overflowing, abundant harvests for all nations around the world. Soon food shortages will be obsolete. Not too many years from now, YOU may read head-

lines such as, "Nobody Beefs about India's Beef!"; "Plower Overtakes Reaper in China"; "Best Wheat Crop Ever in Brazil"; "Bumper Crops in Central America"; "NO DROUGHT OR FAMINE IN WORLD IN TWENTY YEARS!"

Would you like to read headlines such as those? You will — if you live through the coming time of famines and beyond, into the wonderful world tomorrow!

These headlines, and many like them, will blaze in tomorrow's newspapers. They are absolutely sure.

You can read all about this peaceful time of plenty in our free booklet *The Wonderful World Tomorrow — What It Will Be Like*. Be sure to write for your free copy right now, before you forget it! You have never read anything remotely like it in your life.

Yes, there *IS* fantastic HOPE for the future! There is wonderful *GOOD NEWS* that lies ahead. But not until *after* mankind has learned his lesson. Not until after mankind has true education, and a new world government makes the right way to live plain and understandable, and the world is taught the way of peace!

... But Before This — A Time of Famine

As a result of wrong government; wrong religion; wrong education — the world has come to this time of crisis.

These crises of war, pestilence and FAMINE were predicted *long ago*. They were foretold centuries ago by the greatest newscaster who ever lived — JESUS CHRIST. Christ told his students to watch the signs of the times; to be aware of impending famine.

Christ said, "And ye shall hear of wars and rumours of wars: see that ye be not troubled: for all these things must come to pass, but the end is not yet. For nation shall rise against nation, and kingdom against kingdom [WORLD WAR]: *and there shall be FAMINES*, and pestilences, and earthquakes, in divers places" (Matt. 24:6-7).

Jesus Christ, the world's greatest newscaster, was telling His students what would occur in *OUR* generation — the gener-

ation that would see these things come to pass (see verse 3). This fantastic forecast is being increasingly FULFILLED! Christ spoke of FAMINE threatening the earth in this final end-time, pulsating age!

But another awesome prediction can be found in the mysterious, little-understood book of Revelation. Notice it!

In chapter 6, verse 5, we read, "And when he had opened the third seal, I heard the third beast [living creature] say, Come and see. And I beheld, and lo a *black horse*; and he that sat on him had a *pair of balances* in his hand. And I heard a voice . . . say, A measure of wheat for a penny, and three measures of barley for a penny; and see thou hurt not the oil and the wine" (verses 5-6).

The pair of balances were to carefully weigh and divide the earth's food supply.

Now continue in verse 7: "And when he had opened the fourth seal, I heard the voice of the fourth beast [living creature] say, Come and see. And I looked, and behold a PALE HORSE: and his name that sat on him was *Death*, and Hell [*Hades*, the Grave] followed with him. And power was given unto them over the fourth part of the earth, to kill with sword, and with HUNGER, and with death, and with the beasts of the earth" (verses 7-8).

Notice again what is recorded in this chapter of the final book of the Bible. This chapter deals with the prediction of the ominous four horsemen of the Apocalypse. One of these horsemen weighs carefully the world food supply, indicating great food shortages. Another symbolizes resultant warfare, worldwide FAMINE, disease epidemics and death!

These plagues always tend to follow in the wake of severe famine!

What the Future Holds

Based not only on the thoughtful predictions and calculations of world statesmen and scientists, therefore, but also on the sure word of Bible prophecy, we can know that world-engulfing famines are coming. The crisis is upon us, and is inevitable. Around the world there will be increasing famine,

drought, starvation, suffering, hunger, with resulting riots, violence, warfare, disease epidemics and death.

Hard as it is for the human mind to comprehend, or understand, it is real. It is sure. It is as certain as the rising and setting of the sun!

But that's not all!

As we mentioned, there is a workable SOLUTION to the population explosion and the threat of famine. That solution is just as sure, just as certain, as the inevitable time of famine!

Although a period of severe, earth-shaking famines lies ahead, beyond it is a bright new world of plenty and truth. There will be no famine, no suffering, no heartache or hunger in that world.

Do you want to learn more about it? Would you like to know what to do to have a part in it? Would you like to make sure that you are there to see it?

Then, before you do another thing, write immediately for our FREE booklet, *The Wonderful World Tomorrow — What It Will Be Like*. This booklet will open your eyes and astound you like nothing else you have ever read in your life. It gives specific solutions to the problems facing this world.

And, if you want to know what part the United States and the British Commonwealth will play in that world of peace and plenty, send for the FREE book — *The United States and British Commonwealth in Prophecy*.

Both are FREE, sent in the public interest.

For addresses see page 96

Selected Bibliography

- Appleman, Philip, *The Silent Explosion*, Beacon Press, Boston: 1965, 161 pages.
- Borgstrom, Georg, *The Hungry Planet*, Collier Books: 1967, 507 pages.
- Briggs, Peter, *Water — the Vital Essence*, Harper and Row: 1967, 223 pages.
- Man... *An Endangered Species*, 1967 Yearbook, Department of the Interior.
- Ehrlich, Dr. Paul R., *The Population Bomb*, Ballantine Books: 1968, 223 pages.
- Freeman, Orville L., *World Without Hunger*, Frederick A. Praeger: 1968.
- Hardin, Clifford M., Editor, *Overcoming World Hunger*, Prentice-Hall: 1969, 177 pages.
- Hobbs, *India — India*, McGraw-Hill: 1967.
- Hopcraft, Arthur, *Born to Hunger*, Houghton Mifflin Company: 1968, 258 pages.
- Laffin, John, *The Hunger to Come*, Abelard-Schuman, London, New York, Toronto: 1966, 207 pages.
- Mayo, Katherine, *Mother India*, Harcourt & Brace: 1927, 423 pages.
- Moss, Senator Frank M., *The Water Crisis*, Frederick A. Praeger Publisher: 1967, 305 pages.
- Osborn, Fairfield, *Our Plundered Planet*, Little, Brown and Company: 1948, 217 pages.
- Paddock, William and Paul, *Famine — 1975! America's Decision: Who Will Survive?* Little, Brown, and Company: 1967, 276 pages.
- Paddock, William and Paul, *Hungry Nations*, Little, Brown, and Company: 1964, 344 pages.
- Van Gooder, Dan P., *Ill Fares the Land*, Western Islands Publishers: 1966, 240 pages.
- Wright, Congressman Jim, *The Coming Water Famine*, Coward: 1966, 255 pages.

Bibliography

Articles

- Annual Report 1967 Population Reference Bureau, Inc.* 1755 Massachusetts Avenue, N. W., Washington, D. C. 20036. Page 19.
- AP, "Hunger Called Biggest Peril of Next Decade," Staff Writer William L. Ryan, March 6, 1966.

- AP, Washington, article on improvements in food grains — rice, wheat and corn, December 31, 1968.
- The Arizona Republic*, "Millions Will Starve to Death and Nothing Can Help Them, Says Scientist," May 17, 1968.
- Business Week*, "Putting a Brake on Runaway Birth Rates," September 23, 1967.
- Chicago Tribune*, Chesly Manly, April 18, 1967.
- Chicago Tribune*, Walter Trohan, May 1, 1967.
- Chicago Tribune*, "Rising Birth Rate World Problem: LBJ," January 9, 1969.
- Clipping, "World Moves Toward Famine," November 19, 1967.
- CURRENT*, "Controlling World Population: Planning the Post-Famine Environment," by Paul R. Ehrlich, June 1968.
- Daily Telegraph*, "UN Warning on Optimism in Famine Prevention," by Geoffrey Myers, Sept. 13, 1968. DEPARTMENT OF STATE BULLETIN, William S. Gaud, Administrator, Agency for International Development, December 9, 1968.
- Edmonton Journal*, "World Has 10 Years to Solve Its Food Shortage — Scientist," October 31.
- Engineering Opportunities*, "Food and Natural Resources," by Irwin Hersey, March 1967.
- Evening News*, "Hell on Earth Is Just Round the Corner." November 23, 1968 (England).
- The Evening Star*, Washington D. C. William Grigg, December 28, 1966.
- The Evening Star*, Washington, D. C. "Worldwide Famine Possible," Richard Wilson, June 21, 1965.
- Forbes*, "World Hunger: Enemy of U. S. Prosperity," March 1, 1966.
- Fort Lauderdale News*, Jenkin Lloyd Jones, August 1, 1966.
- The Gettysburg Times*, "The World's Population in 1950 and 2000," January 9, 1969.
- International Herald Tribune*, "C. P. Snow Surveys Future of World, Nears 'Despair'" by Robert Reinhold, November 14, 1968.
- International Herald Tribune*, "Million Dead, Million Dying in Biafra, World Is Warned," by Robert H. Estabrook, November 29, 1968.
- Kansas City Star*, "Hunger Haunts Globe," December 3, 1968.
- Kansas City Times*, "Food as Vital to Avert Ruin," Alvin S. McCoy, November 15, 1967.
- London Times*, "The Birth Boom That Means a 'Hell on Earth,'" November 21, 1968.
- LOOK, George McGovern, U. S. Senator from South Dakota, March 7, 1967.
- Los Angeles Herald-Examiner*, "Tragic Story of the World's Race for Food," by Harrison Brown October 6, 1968.

- Los Angeles Times*, Rudy Abramson, February 17, 1966, also February 16.
- Los Angeles Times*, Editorial, March 3, 1967.
- Los Angeles Times*, "Freeman Says U. S. Will Not Be Feeding World Indefinitely," Thomas J. Foley, April 10, 1966.
- Los Angeles Times*, George Getze, November, 17, 1967.
- Los Angeles Times*, "25,000 Hunger Deaths Daily in Biafra Forecast," November 6, 1968.
- New York Journal*, "Population Has Already Reached Crisis Stage, Authority Warns," by Jane Marcham, November 1, 1968.
- New York Times*, John W. Finney, December 3, 1965.
- New York Times*, Editorial, October 14, 1966.
- New York Times*, "C. P. Snow Fearful That Rich Nations Won't Bar Famine," by Robert Reinhold, November 13, 1968.
- New York Times*, "Wood Use as Food Is Seen by Science," June 2, 1968.
- New York Times*, "New Device Makes Food from Leaves," August 14, 1968.
- New York Times*, "Crude Oil Proposed as Protein for Poor," November 20, 1968.
- The New York Times*, "Among Political Thinkers, the World's Doomsday Clock Still Reads 11:52," by Harrison E. Salisbury, January 6, 1969.
- New York Times*, "Overpopulation War Escalated, January 6, 1969.
- Newsweek*, "New Foods for Fighting Famine," February 27, 1967.
- People! An Introduction to the Study of Population*, Population Reference Bureau, Robert C. Cook and Jane Lecht, Columbia Books, Publishers: 1968, Page 63.
- Population Bulletin*, "The World Bank Tackles Population," Volume XXIV, Number 3, November 1968. Quotation from April 24, 1961 speech by former President of the World Bank (from 1949-1963) Mr. Eugene Black. Address of Robert S. McNamara to the Board of Governors, World Bank, September 30, 1968.
- Population, Chemical and Engineering*, Page 43, October 14, 1968. "POPULATION Technology's Desperate Race with Fertility," by David M. Kiefer, 26 pages.
- "POPULATION in the U. S., Amenities and Aesthetics Are Problem, Not Survival," by David M. Kiefer, 17 pages.
- San Francisco Argonaut*, "World Famine," by Thomas Fortune, November 13, 1968.
- SCIENCE JOURNAL, May 1968. "Feeding the World" by Lord Boyd Orr. "The Earth's Potential" by H. L. Penman. "The Animal Harvest" by K. L. Blaxter. "Improving Tradi-

- tional Agriculture" by A. H. Bunting and Alan Harrison. "Novel Routes to Plan Protein" by H. A. B. Parpia. "Farming the Desert" by Hugo Boyko. "The Ocean Reservoir" by J. A. Gulland. "Single Cell Protein" by S. R. Tannenbaum" and R. I. Mateles. "Synthetic Foods" by Magnus Pyke. "Implementing the Possibilities" by N. W. Pirie.
- Science News*, "Analysis of Famine," Barbara Tufty, Volume 90/30, July 1966.
- Science News*, "Starvation and the Brain" Joseph L. Myler, Volume 91, April 1967.
- Scientific American*, "The Dimensions of World Poverty," by David Simpson, November 1968.
- Six Billions to Feed*, Foreword by Binay R. Sen, Director-General, Food and Agriculture Organization of the United Nations, Rome: 1962, Page 41.
- The Social Studies*, "Count-Down to Famine," by Charles Wilford Johnson and Gertrude W. Johnson, January 1968.
- The Sun*, Sydney, "Hunger a World Threat," January 7, 1969.
- TIME, "Sociology a Self-Corrective for the Population Explosion?" February 28, 1964.
- TIME Magazine, "OPINION: A State of Siege," November 22, 1968.
- TIME Magazine, "The Hope of Conquering Hunger," January 31, 1969.
- TIME Magazine, May 16, 1969, "The Painful Presidency of Egypt's Nasser."
- Today's Health*, "FOOD TABOOS," by Gwen Schultz, February 1964.
- Toronto Daily Star*, "BIAFRA — A special Report on a Country of Starvation and Anguish," October 25, 1968.
- UPI, "Malnourished Children Become Stunted Adults," Joseph L. Myler, December 10, 1964.
- UPI, Washington, article on so-called "Miracle Rice," October 28, 1968.
- UPI, "Pills," November 14, 1968.
- U. S. News and World Report*, Institute of Technology, January 9, 1967.
- U. S. News and World Report*, Sol W. Sanders, May 1, 1967.
- U. S. News and World Report*, "Now 200 Million Americans," November 6, 1967.
- The Wall Street Journal*, Burt Schorr, July 6, 1966.
- The Wall Street Journal*, "Population Control — Earth's Last Chance?" by Paul R. Ehrlich, December 3, 1968.
- The Washington Post*, "The Food Squeeze," September 19, 1968.
- Winston-Salem Journal*, "World's Hungry Will Die Unless . . ." by Harry Ferguson, December 10, 1965.

MAILING ADDRESSES WORLDWIDE:

IN THE UNITED STATES
AMBASSADOR COLLEGE PRESS
P. O. Box 111
Pasadena, California 91109

IN AFRICA
P. O. Box 1060
Johannesburg, Transvaal
Republic of South Africa

IN THE PHILIPPINES
P.O. Box 1111
Makati, Rizal D-708

IN AUSTRALIA
P.O. Box 345,
North Sydney, NSW 2060,
Australia

IN BRITAIN
P. O. Box 111
St. Albans, Herts.,
England

IN CANADA
P. O. Box 44, Sta. A
Vancouver 1, B.C.

IN FRENCH CANADA
Boîte Postale 121
Montréal 3, Québec

IN CYPRUS
Box 2266
Nicosia, Cyprus

IN FRANCE, SWITZERLAND
AND BELGIUM
91, rue de la Servette
Case Postale
CH-1211 Geneva 7
Switzerland

IN INDIA
Box 6727
Bombay 52, India

IN ISRAEL
P. O. Box 19/0111
Jerusalem, "Old City"

IN LATIN AMERICA
P. O. Box 5-595
México 5, D. F.

IN HOLLAND & BELGIUM
Postbus 496
Arnhem, Nederland

IN NEW ZEALAND
P. O. Box 2709
Auckland 1, New Zealand

IN GERMANY
Postfach 1324
(4) Düsseldorf 1
West Germany

