A great deal is known about the food situation in the advanced countries of North America, Europe and Oceania. In these countries food supplies are generally ample for healthy and satisfactory diets for all, and only lack of income and buying power limit a small proportion of the population to poor and inadequate diets. Not only is total food consumption by quantity and composition quite accurately known here, but differences in food consumption between different groups in the population have been intensively studied.

Facts about the situation in the less-developed continents and regions are less exact and far less complete. Two series of data are available. The Food and Agriculture Organization has compiled food consumption statistics based on "food balance sheets" for each country. These arrive at average consumption per capita by setting up balance sheets which take into account all factors -- production, farm use for seed and feed, industrial use for non-food purposes, stock changes, exports and imports, etc., and thus arrive at net amounts for human consumption. Their production data are based on official national censuses and other official figures. But in several regions such complete and authoritative data are available for relatively few countries; so there are great gaps. Detailed food consumption studies by different classes of the population are also relatively few in less-developed countries.

A second set of world-wide food consumption data is available from the studies and publications of the U.S. Department of Agriculture. These are based on reports from the agricultural attaches of the Foreign Agricultural Service, who use not only official data but all other sources of information, and who supplement the published data by surveys and estimates of their own. Where there are no U.S. agricultural attaches, Agency for International Development technicians make the reports. This U.S. service provides estimates of production and consumption for all major countries and many minor ones, and thus provides a far more complete coverage in less-developed regions than do the FAO data.

1/Chief, United Nations Division, Agency for International Development.
The major facts on the world food situation, however, are so striking that they appear the same whether studied from the FAO data or the U.S. data. The facts are broadly these:

1. Average levels of food supply and the adequacy of average diets have improved greatly in the more highly developed regions of the world since the end of World War II, and now are quite satisfactory both on the average and for all sectors of the population except the very poor.

2. Average levels of food supply per capita in most less-developed regions recovered most or all of the war-time losses, and increased fairly steadily though slowly until the middle or end of the decade of the 50's.

3. Since the late 50's, there has been a significant turn for the worse in less-developed countries with population levels recently increasing faster than the food supply levels. This threatening development is due to a general downward trend in death rates with as yet no corresponding reduction in birth rates, and a resultant rapid speeding up of population growth in all less-developed regions.

4. Production of non-food products -- largely fibers, wood, etc. -- has increased somewhat more rapidly than food products in less-developed regions, providing somewhat more buying power for food imports.

5. Supplies of food under concessional terms, mainly from the U.S. Food for Peace Program, have helped consumption levels somewhat. But even so, these now add only about 2 percent to food supplies for the less-developed regions.

6. Possible solutions to this problem include not only continued and intensified efforts to modernize and increase food production in less-developed countries and to check the upward surge in population growth rates, but also efforts to further speed up industrial and other non-farm progress so that less-developed regions could increasingly afford to import commercially more of their food from other regions with more ample land resources, particularly from the U.S. and Canada.

7. Help from the more advanced to the less-developed countries, to aid the improvement and more rapid development of both agriculture and industry, will continue to be needed. The help given them by the U.S. through its A.I.D. program is being increasingly reinforced by expanded economic assistance activities from other developed countries. Both will be needed and on an enlarging scale, for a considerable time ahead.
Food Production Relative to Population

The Second World War gravely disturbed food production and trade, and created or accentuated famine conditions in many parts of the world, developed as well as less-developed. The first formal international effort of the Allies was the creation of UNRRA -- the United Nations Relief and Rehabilitation Administration -- even before the war was won. UNRRA had a major hand both in relieving starvation and starting toward rebuilding war-devastated economies in the allied countries; and Military Government performed similar services for the vanquished countries with some notable successes, such as the Japanese land reform.

The war left the world with food production per capita reduced one-seventh below pre-war averages outside the Soviet Union, and probably far greater reductions there.2 The first rehabilitation efforts of national governments, UNRRA, and the newly-created International Food and Agriculture Organization were directed toward re-establishing food production. By 1950, food supplies per capita were back up to or in excess of pre-war production in most parts of the world, with the exception of some of the worst-devastated areas, especially the Axis countries, China and India.3

Even so, 1950 food supplies were still far below minimum standards for health and efficiency in many less-developed countries, both in calories and in protein, and ambitious plans were developed by FAO member countries in 1953 for intensified efforts to raise world production. These called for increases by 1956-1957 of 6 percent for food crops and 11 1/2 percent for livestock products, above the levels in 1952-1953, with the steepest rate of increase in the less-developed regions where food supplies were furthest below minimum standards. Food production per capita did increase for the world as a whole over this middle period of the 50's even more than had been projected. The Far East ran substantially ahead of its goal; the Near East and Africa just about equalled theirs, but Latin America fell substantially behind its goal.4

For the world as a whole, food production per capita regained the pre-war average by the beginning of the 50's, and reached a peak about 1/8th above pre-war by the end of the 60's, and then sagged

slightly thereafter. But the progress was not uniform throughout the world. Right through 1963, the well-to-do region of Western Europe continued to increase its output faster than population growth, reaching an average food production per capita 25 percent above its pre-war level. The Soviet Union continued to push its output to new levels of adequacy and in 1962 reached levels substantially above the pre-war average. Other eastern European countries also showed material increases. In 1963, there was a sharp set-back in this region, with a drop of 5 percent in Soviet food supplies per capita and three percent in other Eastern European countries from the preceding year.

The most ominous recent development is that the less-developed regions of the world -- Asia, Africa and Latin America -- failed to maintain their upward trends in food output per capita after the latter part of the 1950 decade. Latin America reached its peak in 1958 at just up to pre-war per capita food output, then dropped continuously to 12 percent below pre-war by 1962 and still further in 1963. The Far East (excluding Mainland China) reached its peak in 1960 -- 1961, at 96 percent of pre-war, and declined slightly in 1962, and slightly more in 1963. Africa increased to a level about one tenth above pre-war by 1953, varied slightly above and below that level to 1960, but since then has dropped markedly, to a level in 1963 of only about 5 percent above pre-war. Of the less developed regions, only the Near East shows reasonably steady progress, which reached by 1959 a per capita level 13 percent above the pre-war level and remained at or near that level since.

In the Far East, the situation is even more discouraging, with only five countries out of 15 showing per capita food production in 1962-1963 above what it was a decade earlier, and only four out of 14 higher than the pre-war per capita average. In Africa, on the contrary, 18 countries

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6/All Southern Hemisphere figures are for crop years; i.e., 1962 means 1962-1963, etc.


out of 29 show food production in the latter period higher than a decade earlier, with Africa south of the equator showing an average gain of 6 percent over the decade. 9

Both overall and by regions, food production is generally expanding around the world. But in most regions the rate of expansion has slowed down in recent years, both in contrast with the rapid rate of improvement in the decade of the 1940's and also in contrast with the slower rate of expansion in the early 1950's. In the Far East and Latin America, where three-quarters of the population of the less-developed countries of the non-Communist world lives, food production has generally failed to keep pace with population growth since the late 1950's. This general situation can be stated another way. In the less-developed world, recovery and expansion in food production got off to a rapid start after World War II, slowed down somewhat in the first half of the decade of the 50's, and slowed down even more in the subsequent period. But population growth in the less-developed areas has increased at a growing rate in the less-developed countries since World War II, as shown in the appendix table.

Population growth rates in Europe continued below one percent per year over the period from 1945 to 1959, declining slightly during this period; in Eastern Europe they rose to 1.3 percent per year, and in the U.S. and Canada stayed under 2 percent. In Latin America, however, the already high natural growth rates increased through the period, reaching in the latter half of the 50's new high levels of 3.2 percent per year in Central America and 2.5 percent per year in South America. In Africa and Asia, the net rates of increase also gained sharply, though still remaining at moderate levels comparable with those in North America. The efforts to help less-developed countries conquer disease and reduce deaths due to infectious diseases carried on both by the World Health Organization (WHO) and by AID and other bilateral assistance, have proved far more immediately effective than the efforts to improve agricultural production and output carried on by FAO and bilateral aid programs. Perhaps this is because we cannot inject new knowledge and methods into men with a hypodermic needle at the rate of hundreds per day!

9/"The 1964 Africa and West Asia Agricultural Situation," Supplement No. 5, to the 1964 World Agricultural Situation, p. 18, Economic Research Service, USDA, March 1964. (The dates cited here are for per capita total agricultural production rather than food production; the latter data were not shown.)
Some Latin American countries made material strides in food production, such as Mexico with a steady upward trend reaching 40 percent above pre-war levels by 1959-1960, and a sharp further increase indicated in 1963. Ecuador and Venezuela also show a substantial and continuing increase, and even Brazil shows a substantial increase in the last five years above the average for the early 1960's. But even with these increases included, Latin American food production as a whole, fell further and further behind population growth from 1958 to 1963, with a net decline of 7 percent in food per capita over that period.10

Some of the poorest-fed countries did show substantial improvement in nutritive content of the average diet during the decade of the 50's -- India, 10 percent in calories, and about 8 percent in protein (but all in plant protein); Japan, about the same in calories, but marked increases in plant and animal protein; and some gains in Peru, Venezuela and the Philippines. Pakistan, at just below 2,060 calories, hardly held its own in calories, and slipped slightly in protein.

The average pre-war daily energy intake in all these countries, of 1,700 to 2,200 calories a day would be regarded as near-starvation levels in more advanced countries. Even the slightly improved levels were obtained only with the help of substantial PL-480 food imports from the U.S.A., donated or lent under our Food for Peace Program.

Composition of the Diet in Less-Developed Countries

Besides the low level of total energy (calories) in the diet in most less-developed countries, the quality of the diet is very poor. This is especially marked in the low proportion of proteins as a whole and particularly in the proportion of proteins derived from livestock products. While North America obtains 30 percent of its total energy from livestock products and all developed regions as a whole obtain 20 percent, the less-developed regions obtain only 5 percent of their energy from livestock products. As a result, most underdeveloped regions are deficient both in the total amount and the composition of their daily protein intake as compared to minimum nutrition standards for health and efficiency, and half the world's population lives in countries with such protein deficiencies.11

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10/Food production in Cuba has dropped sharply and progressively since 1961. In 1963 it was only about two-thirds of the pre-war average.

This has influenced the Latin American averages as a whole.

International Efforts to Assist Economic Development

The increases in food production after the war reflect a very determined international effort both to reconstruct the war damages and to help the less-developed countries advance to better levels of production and living. The first phase -- the reconstruction of Europe -- was most effective. Europe, though seriously ravaged by the war, still had much of the apparatus of modern civilization, though badly damaged and deteriorated; even more important, it still had a population of educated, modern people, skilled in all that it takes for modern society. With generous help from the U.S.A. under the Marshall Plan and with American industry helping Europe rebuild its industries on modern lines and with the stimulus of its own progress under new European programs including the Monet Plan for France and the Common Market for much of the Continent, Central and Western Europe has forged ahead to new levels of efficiency and output in industry and agriculture and to new standards of living for its people, standards which begin to approach those of North America.

At the same time, Europe has developed a dynamism and adventurous spirit in both industry and government which are worlds apart from the flat feeling of stagnation and despair which characterized so much of the inter-war decades from 1920 to 1940.

As Europe gained new wealth and strength, European countries helped nearly all of their earlier colonies to emerge as free and independent states, and began to share with the U.S. more and more of the burden of helping the underdeveloped regions of the world. They have been joined by Australia and New England, and more recently, by Japan as aid donors.

By 1956, when the U.S. contributed two billion dollars to the economic development of the rest of the world through its development assistance program, other countries contributed only a little over one billion and much of that went to their colonies and ex-colonies. By 1960, U.S. contributions in grants and loans had grown to 3.9 billions, but contributions by other (including now substantial amounts from Japan) had grown to 1.8 billions. For 1962, the U.S. contributed 4.7, while other nations contributed 2.4 billion dollars to the less-developed world. 12 Private capital flows varied between 2.5 and 3.5 billions of dollars of dollars during this same period with a slight downward trend.

Besides the directly financed assistance and the technical help extended through the bilateral aid programs of the U.S., the U.K., France, Germany, and many other countries, the advanced countries have paid the major part of the cost of establishing and financing the new United Nations institutions of all sorts -- not merely to keep the peace and to aid industry, agricultural, health and labor sectors, but also to help finance the economic development through the International Bank Group and to meet and ease international monetary emergencies and balance of payments difficulties through the International Monetary Fund.

Some idea of the magnitude of these activities may be given as follows:

Besides the heavy financial assistance to aid the less-advanced countries to speed their economic development, the U.S. Government has been maintaining a staff of roughly 5,000 experts in less-developed countries to provide them direct technical assistance, guidance, education and training, and on helping prepare national development plans. The United Nations and the specialized agencies of the U.N. system are supplying and supervising about the same number of international technical assistance experts, recruited from all the developed countries and some less-developed ones. Other bilateral aid programs -- those of the British, French, Belgian, Dutch, Swiss, Scandinavian countries, and many others -- are supplying experts where needed. Some of these, the British and French at least, on a scale as large or larger than the U.S.

Altogether, there are probably about 25,000 technical assistance experts at work in less-developed countries round the world, supplied by national governments, directly or through international agencies. Others are recruited and contributed by private foundations, religious groups and other sources from the advanced countries. In comparison, there are approximately 6,600 agricultural extension agents at work in the U.S. today and approximately 4,100 women home agents. Despite the great world-wide effort, the expert advice and assistance to the two and one-quarter billion people of the less-developed world is thus far less intense than it is to our five million American farmers.

Relation of U.S. Food Donations to Levels of Food Consumption

The data quoted on supplies of food available in less-developed countries include the food supplied by our Food for Peace Program as well as the much smaller donations from other countries made directly or through their cooperation in the new experimental international World Food Program, operated jointly by FAO and the U.N.
The U.S. food utilization activities, both direct and through the World Food Program, represent roughly 3 percent of total grain supplies in the less-developed countries and about the same proportion of their supplies of milk products.\textsuperscript{13} Since these supplies were not distributed uniformly through all less-developed countries, they represent a much larger proportion of total food supplies in some of the recipient countries. While small relative to total supplies, their concentration in areas of greatest need or suffering from exceptional crop failure made a substantial contribution to the prevention of starvation and acute malnutrition and to their maintenance of at least minimum food standards. At the same time where the food was sold locally for cash which was mostly turned over to the local government as grants or loans for economic development, the process also enabled the government to put more of its population to work on economic activities than it could otherwise have done.

**Relative Place of Food and Agriculture in Future Economic Development**

In the past of all presently highly developed countries, the proportion of the population working on the land declined as cities grew and developed, and as more and more of the population shifted to work in manufacturing, transportation and commerce as well as in all the now highly developed skills and professions.

Early in our own country's history it took nine families on the land to raise the food for ten families in all. Today, with the aid of many industrial products produced by non-farm industry, it takes less than one family on the land to produce the food for 10 families off the land, with a lot left over for commercial and non-commercial export. And the development happened here and in Canada even while plenty of good land still was not under cultivation.

Except in some parts of South America, the pressure of population on the land is very heavy in most less-developed countries, and the farms are so small -- less than four acres of cultivated land for each farm worker -- that even with a great increase in per-acre productivity they would never be able to raise enough food to feed their population at even a modest standard of dietary adequacy. With the general high rate of population increase, crowding on the land is getting progressively worse in most less-developed countries, even with strong efforts to raise their cultivated area by great new irrigation and land reclamation projects.

The only real way out is to increase their nonfarm and industrial activity and employment far more rapidly than they have heretofore, so that they can put workers not needed on the land into effective production elsewhere. Eventually, they can even begin to reduce the number of people on the land, so that they, too, can begin to substitute machines for men and can raise their per capita productivity on the land as well as in the cities beyond what can be obtained alone by higher yields per acre.

This long-range possibility ties back into the previous discussion of the contribution which PL 480 supplies are now making to their food supply. As less-developed countries begin to develop profitable markets for some of their new industrial exports they will be able gradually to begin importing commercially more of the food products they now receive as donations to meet emergencies, or as long-term local-currency loans to aid economic development. And over the longer period, if this process goes still further, their commercial demands for food to supplement their diets might provide a basis for us to give up all crop restriction efforts and to develop the food productive possibilities of our continent to the utmost, to produce all the food which the less-developed countries need so badly and for which they would then be able to pay.

Before this time could come, though, there are many difficulties to be overcome. The rate of economic progress in the less-developed world is slow as compared to the rate at which their population is growing. Most advanced countries, notably our own, are becoming weary of the continuing needs of foreign relief and development. Moreover, there is a scant supply of skilled men and of financial resources in most of these countries to tackle their problems. There is also the difficulty that we are trying to help the less-developed countries to achieve, in a single generation, a modernization and transformation greater than we or other advanced countries made in a full century.

This is the challenge we face for the future. But when we look at the vast sums now being spent on defense and on adventures in space, we can hope for great reductions at least in defense costs as the world continues its return to sanity. It does not seem impossible to hope that we and other advanced countries should be willing to devote a significant part of these savings to expanding our help to the development of the poorer countries of the world. We can change our export donations from spears into ploughshares. If we do shift in these direction, we can move forward together toward a more prosperous, more peaceful and less-hungry world.
Appendix

Average reported natural population increase rates, by region, per 1,000 populates

<table>
<thead>
<tr>
<th>Country</th>
<th>1945-49</th>
<th>1950-54</th>
<th>1955-59</th>
</tr>
</thead>
<tbody>
<tr>
<td>United States</td>
<td>13.4</td>
<td>15.0</td>
<td>15.2</td>
</tr>
<tr>
<td>Canada</td>
<td>17.6</td>
<td>19.1</td>
<td>19.8</td>
</tr>
<tr>
<td>Western &amp; Central Europe</td>
<td>8.4</td>
<td>7.7</td>
<td>7.7</td>
</tr>
<tr>
<td>Eastern Europe</td>
<td>9.8</td>
<td>13.8</td>
<td>13.2</td>
</tr>
<tr>
<td>Central America</td>
<td>27.2</td>
<td>30.8</td>
<td>32.2</td>
</tr>
<tr>
<td>South America</td>
<td>21.3</td>
<td>23.6</td>
<td>24.7</td>
</tr>
<tr>
<td>Africa</td>
<td>15.6</td>
<td>17.5</td>
<td>19.6</td>
</tr>
<tr>
<td>Asia</td>
<td>10.8</td>
<td>12.9</td>
<td>13.4</td>
</tr>
</tbody>
</table>

Data are simple averages of countries reporting in regions stated, omitting small countries and territories, except in Asia, where weighted average computed.


(average regional population growth rates, reported by Lester Brown, loc. cit., p. 9 are substantially higher in Latin America. and in Asia.)