



**AgEcon** SEARCH  
RESEARCH IN AGRICULTURAL & APPLIED ECONOMICS

*The World's Largest Open Access Agricultural & Applied Economics Digital Library*

**This document is discoverable and free to researchers across the globe due to the work of AgEcon Search.**

**Help ensure our sustainability.**

Give to AgEcon Search

AgEcon Search

<http://ageconsearch.umn.edu>

[aesearch@umn.edu](mailto:aesearch@umn.edu)

*Papers downloaded from **AgEcon Search** may be used for non-commercial purposes and personal study only. No other use, including posting to another Internet site, is permitted without permission from the copyright owner (not AgEcon Search), or as allowed under the provisions of Fair Use, U.S. Copyright Act, Title 17 U.S.C.*

# Trends in World Food Consumption

C.E. Overton  
(202) 786-1705

Food consumption throughout the world has increased steadily since 1960. Yet the amount, variety, and quality of food people eat differs greatly among nations. Today, a typical North American consumes an assortment of foods, including lots of animal products. Many Africans, whose diet looks virtually the same as it did 25 years ago, struggle to find a meager meal of cereal grains or starchy root crops, like cassava and taro, and a little meat.

The composition of people's diets has changed in the last quarter century, mostly in developed and centrally planned economies. For instance, Europe and the USSR have significantly expanded their consumption of animal products, while reducing use of cereals, roots, and tubers. On the other hand, many developing nations, especially in Africa, still consume large amounts of starchy foods.

## Levels of Consumption

In 1986, developed countries in North America (*see box*) had the highest level of food consumption in the world, over 2,218 pounds per capita per year. The more than 3,600 calories consumed per person per day greatly exceeded the minimum daily requirement of about 2,700 calories. Oceania (Australia and New Zealand) and Western Europe were close behind with 2,152 and 2,150 pounds and 3,350 and 3,418 calories, respectively. Japan consumed only 1,459 pounds and 2,600 calories per capita in 1986. Under-reporting of imported processed food and omission of high fructose corn syrup from consumption data account for part of the disparity. Two other developed

nations, Israel and South Africa, consumed 1,998 and 1,212 pounds, respectively.

The USSR and Eastern Europe's food consumption in 1986 averaged 1,903 pounds per capita, and the daily caloric intake was 3,415 calories. Thus, in spite of the recent publicity about food shortages in Eastern Europe, people are relatively well fed. The major food problems in the region are quality, diversity, and distribution. In contrast, China had the lowest level of consumption among the centrally planned economies in 1986, only 1,011 pounds and 2,630 calories.

As a group, developing countries consumed less than half the amount of developed nations, only 1,031 pounds per capita (*table 1*). But consumption varied widely within the group. The Near East and Latin America led with 1,382 and 1,288 pounds, respectively. Developing countries in the Far East and Africa had the lowest levels of consumption in 1986 at 878 and 1,072 pounds, respectively. On average, a resident of central Africa consumed only 2,072 calories per day, about 12 percent below the minimum recommended for most countries in that region.

## Growth in Food Consumption

Not only do people around the world eat different amounts of food, the rate at which their consumption has increased since the 1960's has varied. Food consumption among developed countries grew slightly between 1961 and 1986, about 0.5 percent per year. During the 1960's, food consumption in North America, Western Europe, and Oceania increased at nearly identical rates. During the early 1970's, Oceania, with Western Europe trailing close behind, led the world in per capita consumption. But in the late 1970's and 1980's, growth in both Oceania and Western Europe began to stagnate, while North American con-

**Table 1. Food Consumption in Developed Countries in 1986 Was Almost Twice That of Developing Nations**

Region	1961-86 consumption		
	Annual growth rate	Annual average change	1986 level
	Percent	Pounds per capita	Pounds per capita
<b>Developed countries</b>	0.53	10.16	2,031
<b>Centrally planned countries</b>	0.67	7.67	1,243
USSR and Eastern Europe	0.49	8.97	1,903
China	1.17	10.14	1,011
<b>Developing countries</b>	0.64	6.15	1,031
Africa	0.12	1.33	1,072
Latin America	0.40	4.85	1,288
Near East	1.35	16.31	1,382
Far East	0.73	5.73	878

Source: Computed from Food and Agriculture Organization data.

sumption continued to rise. In fact, the 2,152 pounds per capita consumed by Australians and New Zealanders in 1986 barely exceeded the 1975 level. This suggests that both Oceania and Western Europe may be approaching their maximum levels of consumption.

Although the rate of growth in consumption was lower in developed countries than in centrally planned or developing economies between 1961 and 1986, the average change in volume per year was higher, 10.2 pounds versus 7.7 and 6.2 pounds, respectively. This disparity indicates that the differences in food consumption levels around the world have increased.

The author is Chief of the Agricultural and Trade Indicators Branch, Agriculture and Trade Analysis Division.

Among centrally planned economies, China had the highest rate of food consumption growth, about 1.2 percent. Compared with other regions, China's rate of increase was second only to that of the Near East. In the 1980's, economic reforms in China that stimulated production received considerable publicity, even though the country has maintained relatively steady growth throughout the 25-year period. Despite the gains in consumption, however, the Chinese remain one of the poorest fed peoples on earth.

Food consumption in the developing countries of the Near East grew at an annual rate of 1.35 percent (16.3 pounds per capita) from 1961 through 1986. At 1,382 pounds in 1986, the Near East led all developing regions in food consumption. These gains were encouraged first by the "Green Revolution"—a program of improved crop varieties and cultural practices introduced in the 1960's and 1970's that dramatically increased yields, especially of wheat and rice—and then by economic growth in countries such as South Korea, Hong Kong, and Thailand.

Agricultural production, which grew dramatically throughout the Near East, helped fuel the high rate of consumption growth. Since 1970, production climbed by over 70 percent in Burma, Indonesia, South Korea, Pakistan, and Thailand. Output in India, Malaysia, and the Philippines increased over 50 percent. In contrast, U.S. production expanded by 34 percent between 1970 and 1986. India, once a nation highly dependent on food aid, has become an occasional wheat exporter, and Thailand is now the world's largest supplier of rice to the international market.

Consumption in other developing regions grew modestly during 1961-86. However, the modest growth combined with low levels of consumption at the beginning of the period caused the gap in per capita food consumption between

developed and developing regions to expand. Even in the Far East, where the annual growth rate of 0.73 percent was higher than in developed countries, the 5.7-pounds-per-year gain was only about half the increase of the developed world.

Latin American food consumption grew at a stable rate through most of the period, but fell beginning in 1981. The drop was due to the effects of a world recession in the early 1980's. The recession forced many African and Latin American countries to adopt austere economic programs to meet repayment obligations on large amounts of debt the countries owed overseas banks. Nevertheless, both regions fared well compared with the Far East, where per capita food consumption in 1986 was the lowest in the world, only 40 percent of North America's level.

Rapid population growth is a major constraint to improving food consumption in developing countries. Population increases in these areas have far exceeded those occurring in the rest of the world (table 2). Unlike China, which successfully reduced population growth in the 1970's and 1980's, other develop-

ing nations have been unable to check their growth. High rates in Africa and the Near East appear to have escalated since 1970. As a consequence, in developing countries in Africa, food consumption grew at only 0.12 percent (1.33 pounds) per year between 1961 and 1986. Population growth in both regions threatens to overwhelm their capacity to maintain even meager levels of food consumption. For example, food production in Nigeria expanded by 37 percent between 1970 and 1986, yet population climbed by 60 percent. Similarly, Egypt increased production by 32 percent, but saw population rise by 50 percent.

#### Composition of People's Diets

Changes have occurred not only in the amounts of food consumed but also in the composition of people's diets. Typically, as incomes rise from a subsistence level, people spend a large share of the increase on food. They start consuming more grains, replacing what are regarded as inferior foods, such as starchy roots and tubers—potatoes, cassava, and taro, for example. As incomes rise further, people eat more animal products and

**Table 2. Populations in Developing Countries Have Grown Faster Than in the Rest of the World**

Region	Population		Growth Rate	
	1961	1986	1961-86	1970-86
	<i>Millions</i>		<i>Percent</i>	
<b>Developed countries</b>	660	823	0.87	0.77
<b>Centrally planned countries</b>	1,030	1,539	1.61	1.37
USSR and Eastern Europe	317	395	0.85	0.79
China	660	1,053	1.88	1.53
<b>Developing countries</b>	1,372	2,522	2.43	2.40
Africa	228	464	2.84	2.97
Latin America	220	410	2.45	2.36
Near East	125	245	2.67	2.69
Far East	795	1,398	2.26	2.19

Source: Food and Agriculture Organization, United Nations.



## World Economic Regions

*The Food and Agriculture Organization of the United Nations classifies the nations of the world into economic regions. The categories are:*

### Developed Countries

#### North America

Canada  
United States

#### Western Europe

Andorra	Luxembourg
Austria	Malta
Belgium	Monaco
Denmark	Netherlands
Finland	Norway
France	Portugal
Gibraltar	San Marino
Greece	Spain
Holy See	Svalbard Islands
Iceland	Sweden
Ireland	Switzerland
Italy	United Kingdom
Liechtenstein	West Germany
	Yugoslavia

#### Oceania

Australia  
New Zealand

#### Other

Israel  
Japan  
South Africa

### Developing Countries

#### Far East

Bangladesh	Macau
Bhutan	Malaysia
Brunei	Maldives
Burma	Nepal
East Timor	Pakistan
Hong Kong	Philippines
India	Singapore
Indonesia	South Korea
Laos	Sri Lanka
	Thailand



**Near East**

- |             |                      |
|-------------|----------------------|
| Afghanistan | Libya                |
| Bahrain     | Oman                 |
| Cyprus      | Qatar                |
| Egypt       | Saudi Arabia         |
| Gaza Strip  | South Yemen          |
| Iran        | Sudan                |
| Iraq        | Syria                |
| Jordan      | Turkey               |
| Kuwait      | United Arab Emirates |
| Lebanon     | Yemen                |

**Africa**

All countries except Egypt, Libya, South Africa, and Sudan

**Latin America**

South America, the Caribbean including Cuba, and Central America, including Mexico

**Centrally Planned Countries**

**Eastern Europe and USSR**

- |                |         |
|----------------|---------|
| Albania        | Hungary |
| Bulgaria       | Poland  |
| Czechoslovakia | Romania |
| East Germany   | USSR    |

**Asia**

- |           |             |
|-----------|-------------|
| China     | North Korea |
| Kampuchea | Vietnam     |
| Mongolia  |             |

fruits and vegetables—not only to improve the quality of their diets but also to show status. The diet becomes more nutritionally balanced because a greater diversity of foods are consumed.

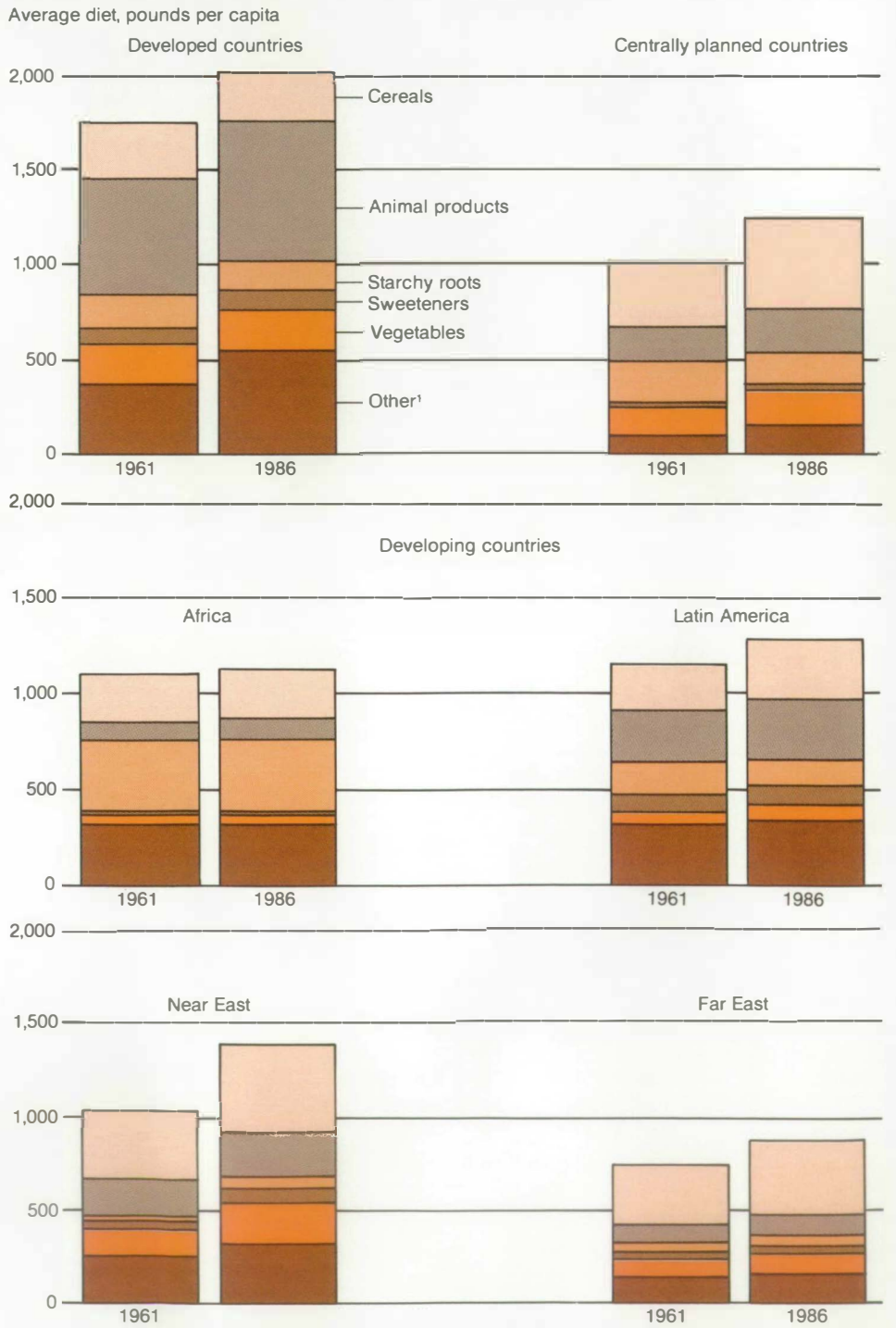
Between 1961 and 1986, consumption of animal products, vegetables, and other foods continued to rise in developed countries, while use of cereals and starchy roots gradually declined. Western Europe was largely responsible for these shifts, since consumption patterns among food groups in North America and Oceania were remarkably stable.

The most dramatic changes in diet composition have taken place in centrally planned economies (figure 1). China's consumption of cereals climbed dramatically to 512 pounds per capita in 1986 from 280 pounds in 1961, echoing major gains in production. Consumption of animal products and vegetables also rose significantly, but they remain a small share of the total diet.

People in the USSR and Eastern Europe ate more animal products in the 1960's and early 1970's, but consumption stagnated in the mid- and late 1970's. Following a policy decision to import grain for livestock production, consumption resumed growing in the 1980's. Use of cereals and starchy roots declined during the 25-year period, while intake of sweeteners, vegetables, and other foods increased. Consequently, despite the need for food assistance in some Eastern European countries, the composition of their diets in 1986 was similar to those in developed nations.

Among developing countries, diets varied by region. In 1986, the main components of the diet in Latin America were animal products, cereals, and other foods. During 1961-86, consumption of animal products increased the most, followed by cereals. However, the economic woes of the 1980's—slower economic growth and large overseas debt—will likely constrain further

**Figure 1. The Average Diet in Centrally Planned Economies Has Changed Dramatically**



growth in livestock consumption, which is closely linked with high per capita incomes.

In Africa, the composition of the diet was virtually unchanged between 1961 and 1986. Cereals and starchy roots and tubers remained the leading food items. Vegetables and sweeteners played only a minor role.

In the Far East, cereals were by far the main component of the diet in 1986, and accounted for nearly half the gain in consumption during the period. Use of vegetables and animal products also increased, but they remained a minor part of the diet.

Cereals were also the leading food group in the Near East in 1986. However, diets were more nutritionally balanced because people were able to eat significant amounts of animal products, vegetables, and other foods. Between 1961 and 1986, cereals had the smallest relative increase in use and contributed just 20 percent to the region's gain in food consumption.

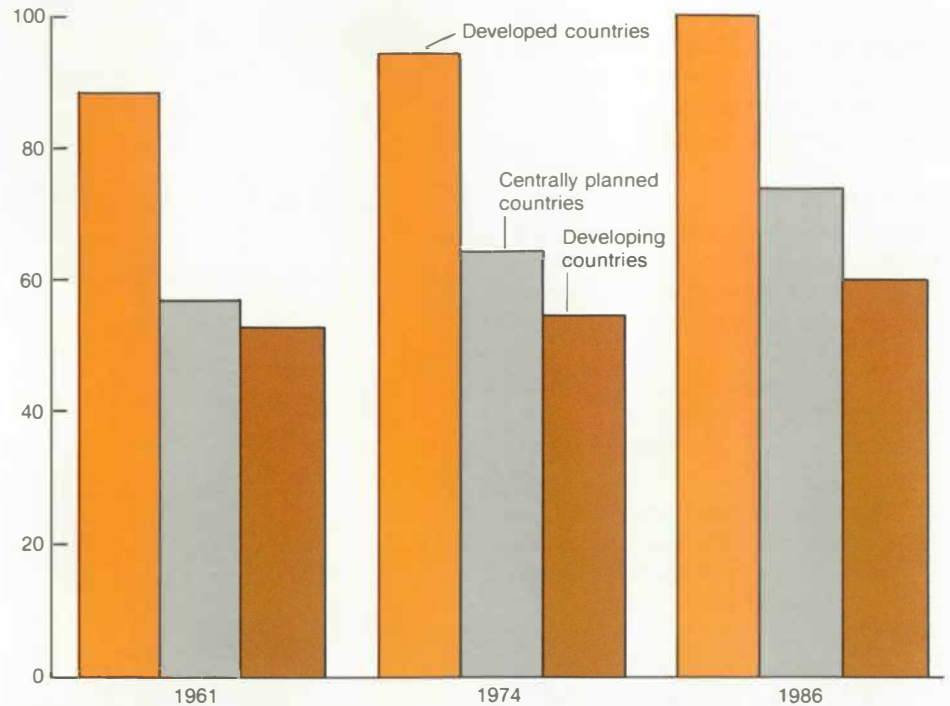
### Quality of the Diet

In addition to the quantity and composition of food consumed, nutritional content is important for developing and maintaining a healthy population. Protein and energy content are widely used to measure the quality of people's diets.

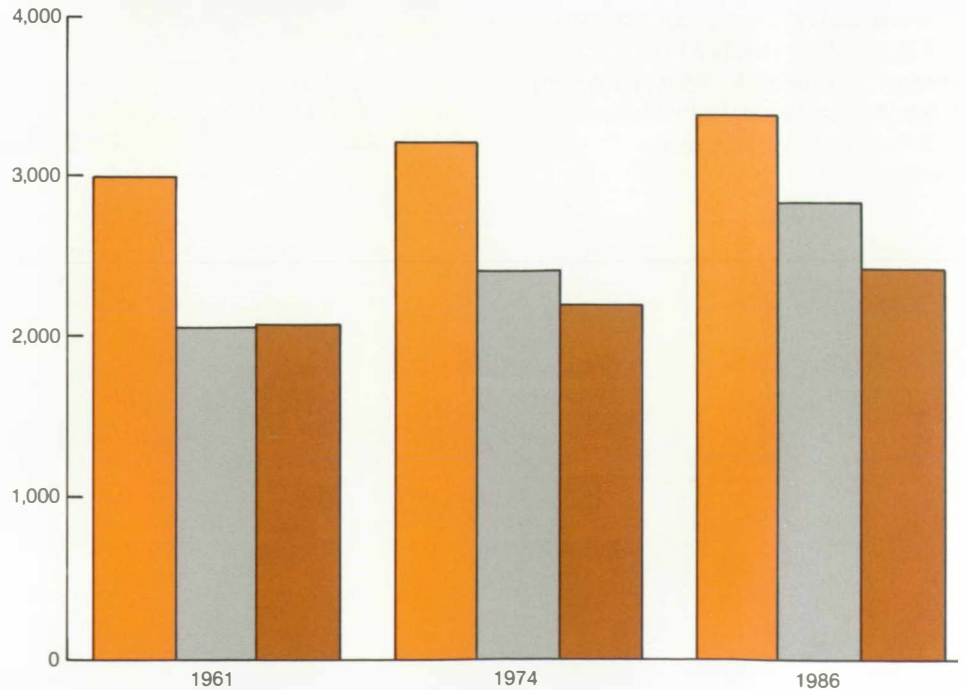
Protein consumption in developed nations during 1961-86 remained well above that in centrally planned and developing countries (figure 2). Among centrally planned economies, Eastern Europe and the USSR were on a par with developed countries over the period. China dramatically increased protein intake from 39 to 62 grams per day. Developing countries have made only marginal improvements since 1961. Protein consumption rose from 64 to 82 grams per capita per day in the Near East, but stayed the same in Africa, at just over 50 grams.

**Figure 2. Protein and Energy Consumption Were Highest in Developed Countries**

Protein consumption -- Grams per capita per day



Caloric intake -- Calories per capita per day



Source: Food and Agriculture Organization, United Nations.

The energy situation is similar. Between 1961 and 1986, China and the developing countries of the Near East increased their caloric intake from 1,600 to 2,600 and from 2,200 to 3,000 calories per capita per day, respectively. However, other developing regions made only modest improvements. ■

### References

Adams, Catherine F. and Martha Richardson. *Nutritive Value of Foods*, Home and Garden Bulletin No. 72. Science and Education Administration, USDA, 1981.

*Agriculture: Toward 2000*, Conference paper C87/27. Food and Agriculture Organization, United Nations, Rome, Italy, July 1987.

Latham, M.C. *Human Nutrition in Tropical Africa*, Food and Nutrition Series No. 11. Food and Agriculture Organization, United Nations, Rome, Italy, 1979.

Marks, Suzanne Marie and Mervin J. Yetley. *Global Food Demand Patterns Over Changing Levels of Economic Development*, AGES 870910. ERS, USDA, October 1987.

*Production Yearbook*. Food and Agriculture Organization, United Nations, Rome, Italy, various years.



Developing countries have made only marginal improvements in protein consumption since 1961.