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Where Will Demographics Take the Asia-Pacific Food System?

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This article presents findings from *Where Demographics Will Take the Food System*, first released at the Asia Pacific Economic Cooperation Forum Ministerial Meetings in Bangkok, Thailand, October 2003. Fifteen Pacific Rim countries contributed to the original report, which was jointly sponsored by the Pacific Economic Cooperation Council, ERS, the Farm Foundation, the East-West Center, and the College of Tropical Agriculture and Human Resources at the University of Hawaii.

The population of the Asia-Pacific region is projected to rise by more than 400 million people in the next 2 decades, a 16-percent increase over 2000. This increase is equivalent to the combined populations of Japan and the United States today. Although economic growth and prices are closely monitored drivers of food demand, demographic changes—urbanization, growth in populations, and changes in the age structure of populations—will likely have more profound long-term implications for the region's food system.

Demographic change was first connected to food demand and supply 200 years ago when Thomas Malthus asserted that "the power of population is infinitely greater than the power in the earth to produce subsistence for man." He later amended his pessimistic view about the earth's capacity to produce food in acknowledging the promise of technological change in increasing food supply. For the intermediate term, population growth and other demographic changes are more likely to define food markets than supply constraints.





In the Asia-Pacific region, an admittedly vast landscape, three demographic trends leading up to 2020 will challenge the food system. First, a more urban population will demand a more varied diet, with a premium on convenience. It will also challenge the logistics of the food supply. Second, as consumers migrate within the Asia-Pacific region, primarily from lower income economies (for example, Mexico, Philippines) to higher income destinations (for example, Australia, Hong Kong, United States), individual food systems must tailor their trade and production to new demographic realities. Finally, the overall aging of the population will reduce the level (to reflect less activity and fewer caloric needs) and change the composition (for example, more fish and fruit) of food demand.

Rapid Urban Population Growth

The most significant demographic change in the Asia-Pacific region in the next two decades will be the rapid growth of urban populations. Some urban areas are already distressingly large and are confronting poverty, pollution, and congestion. Future urban growth will test the efficiency and capacity of the region's food system to

Marketing food products in the Asia-Pacific region will increasingly focus on densely populated urban centers.

deliver a continuous flow of safe, reasonably priced fresh and processed foods.

Asia-Pacific's urban population is projected to grow by over 580 million people between 2000 and 2020, an increase of about 45 percent. For the first time in history, the region's urban population surpassed its rural population in the last decade. This rapid urban growth is due to high birth rates, migration from rural to urban areas, and immigration into urban areas.

Urban growth rates are expected to be the most rapid in China and Southeast Asia; more moderate in Latin America, North America, and Oceania; and slowest in East Asia. The most rapid rates of growth will occur in Vietnam, Indonesia, Singapore, and the Philippines. China's urban population is expected to grow by

300 million people (67 percent) in the next 20 years, a staggering number.

In contrast, rural populations are expected to shrink in practically all of the region's countries. The largest rural declines will occur in China, where outmigration and slower growth will reduce rural population by more than 145 million people between 2000 and 2020.

The region's rapid rate of urbanization is driven by technological, social, cultural, and economic changes. Urban development is a natural consequence of agricultural surpluses, economic specialization, more efficient allocation of resources, and higher incomes.

Urban diets differ from those in rural areas, largely due to higher incomes and the substitution of animal products, fruits, and vegetables for more traditional food staples like grains. Diets in urban areas tend to be more diverse, a function of both supply and income. Urban dwellers tend to eat away from home more frequently and consume more convenience foods. In developing and middle-income economies, access to reliable electricity promotes greater consumption of perishable commodities, and modern infrastructure allows food products to travel farther in less time.

Work and lifestyles in urban areas tend to be more sedentary than those in rural areas, leading to lower per capita energy expenditure and lower per capita caloric requirements. Higher incomes, lower food prices, and urban consumers' propensity to eat more than they need lead to a greater overweight problem in urban areas. Urban and rural differences in work and lifestyles are more pronounced in developing economies.

Marketing food products in the Asia-Pacific region will increasingly focus on densely populated urban centers, such as the Hong Kong-Shenzhen-Pearl River Delta area, Shanghai, Jakarta, Bangkok, Manila,



Santiago-Valparaiso, and Lima-Callao. Many of these urban areas are coastal and have modern port facilities, making them easily accessible to foreign suppliers. In some instances, foreign suppliers are more competitive in these coastal urban markets than are inland producers who face inadequate infrastructure.

400 Million More People To Feed

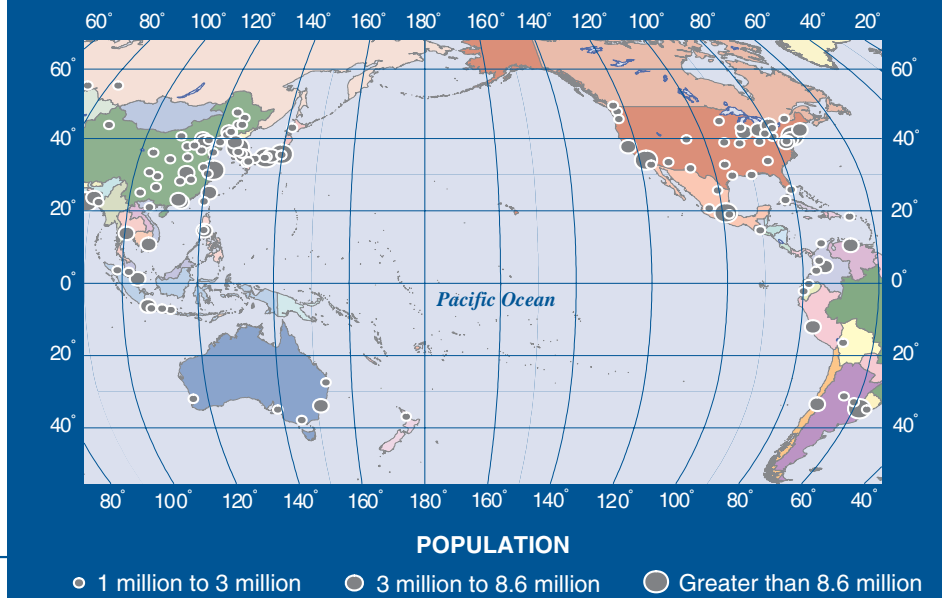
Although the population in the Asia-Pacific region is expected to grow from 2.6 billion in 2000 to 3.0 billion in 2020, this rate of growth is slower than for the rest of the world. Asia-Pacific's share of the world population will decline from 43 percent in 2000 to 40 percent in 2020, as countries in Africa and the Middle East grow faster. Since the 1960s, global population growth, including the Asia-Pacific region, has slowed, marking a shift from the geometric growth rates of previous decades. Currently, the number of people added to the world and the Asia-Pacific region is declining each year. The world population is projected to level off at about 9-10 billion after 2050, with the Asia-Pacific region leveling off at about 3 billion before declining in the 2040s.

Population growth throughout the region will not be evenly distributed. By 2020, the largest absolute increase will occur in China (160 million), followed by Indonesia (60 million) and the United States (50 million). In contrast, the Russian Federation's population has been declining, and by 2007, Japan's population will begin to decline.

Despite a declining rate of growth in China, the absolute increase in its population over the next several decades will remain large relative to other economies in the region. China's population is expected to decline around 2030, following the population declines of Korea in 2027 and Taiwan in 2029. The United States, surprisingly, will grow faster than



Many growing urban areas in developing countries are coastal and have modern port facilities, making them more accessible to foreign suppliers



some developing economies after 2020 due to immigration and high fertility of recent immigrants.

Though population growth in the Asia-Pacific region is relatively slow, patterns of immigration matter greatly in the region. In 2000, 760,000 more people entered the region than exited; that number is still small relative to the region's average annual natural increase of 24.5 million. However, there is significant

migration within the region. Migrants tend to favor economies with higher per capita income: Singapore, Hong Kong (China), Canada, New Zealand, Australia, Brunei, the United States, and Russia. Net migration to the United States alone exceeds 1 million annually. Although Japan's economy has high per capita income, that country's strict immigration policies keep its population homogeneous, as is true for Korea and Taiwan.

Demographic indicators for the Asia-Pacific region

Economy*	Total population			Urban population		
	2000	2020	Change	2000	2020	Change
	Million			Million		
Australia	19.2	22.4	3.2	17.4	21.4	4.0
Brunei	0.3	0.5	0.1	0.2	0.4	0.1
Canada	30.8	35.4	4.6	24.2	29.4	5.1
Chile	15.2	18.0	2.9	13.0	16.2	3.2
China	1,262.5	1,424.1	161.6	456.4	764.2	307.7
Colombia	39.7	52.2	12.5	29.8	43.2	13.4
Ecuador	12.9	18.0	5.1	8.1	12.8	4.7
Hong Kong, China	7.1	8.7	1.5	7.1	8.7	1.5
Indonesia	224.1	287.9	63.8	91.9	168.2	76.3
Japan	126.9	124.1	-2.8	99.9	102.5	2.6
Korea	47.3	51.5	4.3	38.7	46.0	7.3
Malaysia	23.3	34.4	11.1	13.4	23.6	10.2
Mexico	99.9	124.7	24.7	74.3	98.8	24.4
New Zealand	3.8	4.5	0.7	3.3	4.0	0.7
Peru	27.0	35.6	8.6	19.7	28.2	8.6
Philippines	79.7	111.3	31.6	46.7	79.5	32.8
Russia	146.0	139.0	-7.0	106.4	104.3	-2.2
Singapore	4.2	7.5	3.4	4.2	7.5	3.4
Taiwan	22.3	24.3	2.0	18.3	20.8	2.5
Thailand	62.4	71.9	9.5	12.4	19.2	6.9
United States	282.3	336.0	53.7	218.0	276.3	58.3
Vietnam	78.5	99.9	21.4	18.9	34.7	15.8
Asia-Pacific region	2,615.4	3,031.8	416.4	1,322.3	1,909.8	587.5
World	6,078.7	7,516.5	1,437.8	2,872.2	4,201.7	1,329.5

* Members of the Pacific Economic Cooperation Council.

Source: UN data (medium fertility scenario) from U.S. Census database.

Not surprisingly, outmigration is most common in the lower income economies of the Philippines, Peru, Ecuador, Vietnam, Colombia, China, Mexico, and Indonesia. Net outmigration from China, Mexico, and Indonesia has totaled 200,000 to 300,000 annually in recent years.

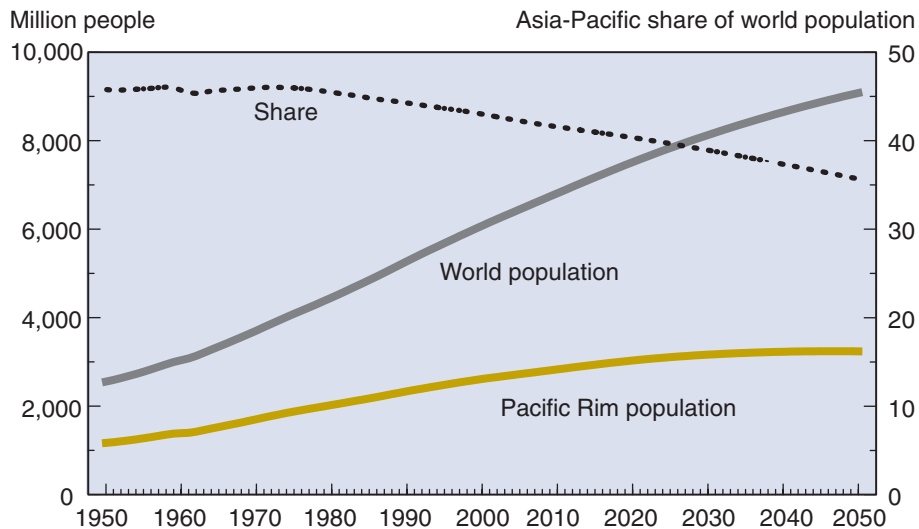
Population growth will undoubtedly challenge the food system, though not equally across the region due to different rates and distribution of growth. Japan's declining population, for example, implies lower food demand in this affluent nation, a leading importer of food and agricultural products. Russia's declining

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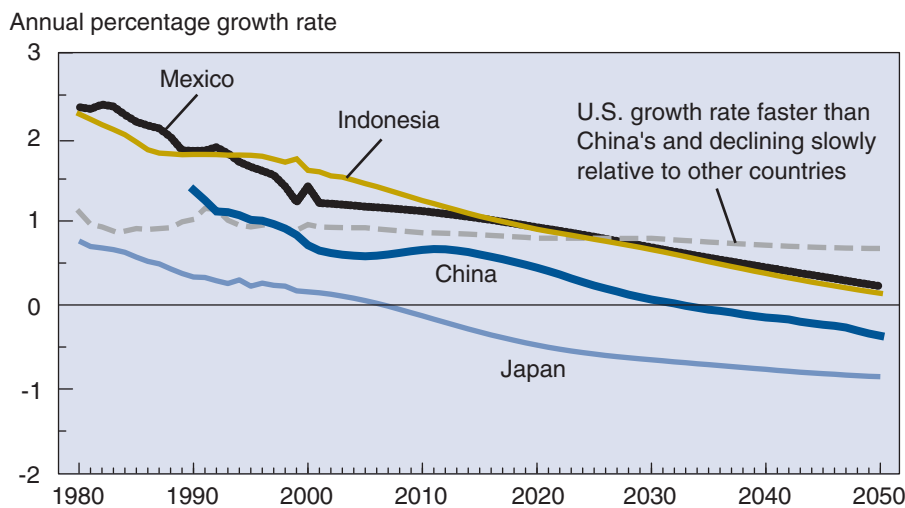
population, when combined with its social and economic restructuring, could recast the nation as a supplier in international food markets. More rapid population and income growth in developing and middle-income economies will increase their influence in the Pacific food system, altering production, consumption, and trade patterns.

Immigration affects food demand in two ways. First, aggregate demand in the receiving economy rises immediately. Since immigrants often have higher fertility than native residents, they can boost population growth in subsequent years. In the United States, for example, immigration plus the higher fertility of recent immigrants accounted for about 60 percent of population growth in the 1990s. Second, the rise in the immigrant share of a population can affect an economy's food preferences. This has occurred in Australia and Canada (with a rising Asian share of its population), as well as in the United States (with rising shares of Hispanics and Asians). These changes may be short-term, with ethnic dietary differences becoming less pronounced over time, as immigrant offspring adopt the food preferences of their new country and as the new country's cuisine is, in turn, affected by the influence of successive waves of new immigrants.

World and Asia-Pacific population leveling off



U.S. population growth rate projected to be higher than most major countries in the region



Source: United Nations.

A Graying Population: Declining Food Demand and a Tax on the Economy

Between 2000 and 2020, average life expectancy in the Asia-Pacific region is expected to rise from 72 to 77 years, and the median age from 30 to 36 years. The population age 65 and older will increase from 200 million in 2000 to 370 million in 2020. Virtually all the economies in the

region have shifted from high to low birth and death rates, leading to a projected 8-percent decline in the number of young people from 2000 to 2020, a modest 17-percent rise in the number of working-age people, and a very rapid rise (almost 80 percent) in the number of older people. Japan's population is aging the most rapidly in the region. Population aging is not unique to the Asia-Pacific region, but it is

happening more rapidly here and in Western Europe than in the rest of the world.

Countries in the region with the oldest age structures are Australia, Canada, New Zealand, the United States, and those in East Asia. These economies experienced the demographic transition—the decline in fertility and mortality rates—a long time ago, driven by income growth, medical breakthroughs, health care investments, and public policy. Increased participation of women in the work force has also contributed to lower birthrates. According to a Brown University researcher, China's family planning policies in the 1970s—including later marriage, greater spacing between births, and fewer children—facilitated the country's demographic transition. On the other hand, Asia-Pacific economies with lower per capita income have younger age structures, their transition occurred more recently, and in some cases, may not be complete.

Advantages of slower population growth (resulting from the demographic transition) include fewer dependent young people and a relatively larger productive segment of the population. The declining share of young people in the population, however, will eventually shift to a greater share of older people as the working segment ages and retires. Although older people may have savings, they may need health and medical services, which can siphon family and societal resources from other economic uses.

The changing age structure of the Asia-Pacific population affects food demand directly and indirectly. One direct effect is lower food demand. With an aging population, food demand declines as activity levels and caloric needs decline. A second direct effect is change in dietary composition and the frequency of eating out. Consumption of livestock products is declining in the region's developed



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The indirect effects of demographic change are felt in the general economy. Changes in the relative proportion of "economically active" and "economically dependent" components of a population influence economic growth, which in turn, directly affects an economy's food demand and supply.

The *dependency ratio* measures change in the relative proportions of "economically active" and "economically dependent" shares of a population. This is the ratio of the younger (age 0 to 14) and older (age 65 and over) populations to the working-age population (age 15 to 64). In the Asia-Pacific region, the dependency ratios for most of the high-income economies are projected to rise over the next two decades due to population aging. On the other hand, the dependency ratios for the lower income economies are projected to decline, providing an opportunity for these economies to save and invest resources for purposes other than raising/educating children and taking care of the elderly. This may give these economies a "demographic bonus," or short-term economic boost.

However, demographers at the East-West Center are quick to point out that this "boost to development is not automatic...because there is no guarantee that governments, institutions, or individuals will spend the savings wisely." In the wealthier economies where the dependent component of the population is rising, labor shortages and higher wages may

eventually lead to capital-labor substitution, with more highly productive workers supporting a relatively larger dependent segment of the population. Labor shortages, such as Japan's shortage of construction workers, may also lead to less restrictive immigration policies.

Age structure also affects the propensity to save and invest, which relates to an economy's productive capacity. Recent research suggests that population aging in Australia, Canada, New Zealand, and the United States will reduce savings and investment rates over the next 20 years, with spillover effects on growth, productivity, and the food system.

Policy Implications

Powerful economic forces generated by demographic changes require the close attention of food system participants and policymakers. Some demographic changes—such as declining fertility and mortality rates and the aging of a population—take years to manifest themselves. Others, like urbanization, may have more immediate impacts.

The food marketing system must adjust to greater concentrations of people in urban areas.

Food system efficiency as well as agricultural productivity must be a fundamental public policy goal if we're to feed growing urban populations. Public and private investment in domestic food system infrastructure and more liberal food trade policies will be essential to ensure cost- and operation-efficient food systems to meet the food demand needs of urban populations.

Less centralized distribution systems will play a more significant role in easing traffic congestion and help reduce other costs of conducting business in densely populated cities.

Higher incomes and greater food demand in urban areas must be balanced against more sedentary lifestyles and

economies, while consumption of fruit and vegetables is increasing.

According to ERS research, older people eat more fresh fruit, fish, eggs, lettuce, and nonfried potatoes. Japan's food market will feel the impact of an aging population more so than other Asia-Pacific countries. Because of Japan's rapidly growing share of older people, for example, per capita meat consumption there is likely to see a significant decline. Older Japanese tend to eat less meat and more fresh fruit, rice, and fresh fish due to their established eating habits.

Older people are also less likely to eat out than are younger people. Consequently, Japanese retirees are clearly more likely to eat their midday meal at home, which has important implications for lunchtime food service. In general, older people tend to prefer convenience, smaller servings, and, when they do eat out, full-service restaurants.



Digital Vision

lower per capita caloric needs. More affluent and health-conscious urban consumers will demand greater quality, variety, and convenience from the food system.

The variability of size and growth of different populations has important implications for food market development strategies.

Food marketing and investment strategies will, more than ever, require customization for each country. Japan is currently the largest net importer of food in the world, but its population is aging rapidly and will soon decline. Investment and marketing strategies must address an overall reduction in food consumption and changes in the types of food that consumers demand. In the United States, where immigration is expected to result in more rapid population growth, strategies must target many more consumers, as well as changes in the racial/ethnic mix. The largest absolute growth in population across the Asia-Pacific region will be in China. This, combined with rapid urbanization, requires a focus on market logistics in a densely populated area and on the

changing preferences of higher income consumers.

Aging populations require a lighter, healthier food "basket."

The aging of the region's population will slowly lead to lower per capita food consumption and a shift in the composition of food demand. Changes in the composition of food demand are likely to include more fresh fruits and vegetables, less red meat, and less eating out. These changes will directly affect producers, processors, retailers, and foodservice establishments.

Aging populations may have adverse effects on economic growth, a leading driver of food demand.

A growing older and retired population, along with a shrinking workforce, will probably have negative effects on income growth in the Asia-Pacific region. Extending the working lives of people, raising worker productivity so that fewer people can support more retirees, and reducing public obligations for pensions and health care services are some possible responses. *W*

This article is drawn from . . .

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