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D. Gale Johnson's Viewpoint

A New Consensus on the Role of Population Growth in Economic Development

At least since the days of Malibus experts have argued about the effects of population growth on the economic welfare of people. Today it remains a relationship of vital importance to lower income countries.

D. Gale Johnson has been co-chairman of a Working Group on Population Growth and Economic Development, which has examined the issue again. This Working Group was convened under the auspices of the National Research Council of the National Academy of Sciences.

The group issued its report in March of this year. In this column Dr. Johnson shares with CHOICES readers his perception of that report.

A new consensus among people concerned about the effects of population growth on economic development is emerging. It is reflected in the recent report on that topic by a working group of the Research Council. This new consensus emphasizes three major points:

First, population growth has modest effects—either negative or positive, upon economic development.

Second, many other factors—including the stability and effectiveness of governments, the quality of the infrastructure, and the degree of market orientation—are significantly more important than population growth in affecting the pace of economic development.

Third, political, social, and economic institutions respond to population growth and ameliorate or mediate what might otherwise be negative consequences of more population.

The Pessimistic View

Several experts for many years have postulated that population growth in

D. Gale Johnson is The Eliakim Hastings Moore Distinguished Service Professor in the Department of Economics at The University of Chicago.

excess of "some annual rate" had a negative effect upon the level and rate of growth of income. This notion rested very largely upon the assumption that the supply of natural resources was fixed, that increases in the productivity of resources were unrelated to population, and that productive investment per worker was likely to be either constant or decline over time.

These assumptions led to a pessimistic view of population growth on income and welfare. High population growth meant continued poverty according to this view. In turn, it was logical to think that if population growth were slowed the effects would be higher per capita real incomes.

Diminishing returns would be less important. Less capital would be required for schools, hospitals, and housing, and thus more resources would be available for investment in equipment to produce goods and services. Furthermore, as the rate of population growth slowed, a larger percentage of the population would be in the labor force though this is only a temporary effect. Thus, the advice by many to lower income countries was "Slow down your population growth."

Another View

There is now a substantial body of research that calls into question the "model" of human activity that underlies this rather pessimistic view of the effects of population growth upon income and welfare. One of the early and important contributions was *The Conditions of Agricultural Growth* by Esther Boserup. By taking a long historical sweep she showed how agricultural technology was modified as population density grew.

Intensity of cultivation increased in response to what might be called population pressure. Consequently, at least after a period of adjustment, instead of declining, food production per capita increased as population increased.

The induced innovation hypothesis,

as developed by Vernon Ruttan and Yujiro Hayami, is an application of Boserup's basic ideas to a world in which organized research has effectively removed most of the restrictions on production that Ricardo and Malthus attributed to diminishing returns in agriculture. It is not implied that diminishing returns have been abolished—certainly not. But by increasing the productivity of human and natural resources, the potential negative consequences of diminishing returns have been offset for much of the world.

Population growth appears to induce other positive responses. The most fundamental revision of conventional thought about population growth is found in these words on page 88 of the report:

"Important as...natural factors may be in conditioning the economic response to population growth, they appear to be far less important than conditions created by people. Many of the initial effects of population growth are negative, but they can be ameliorated or even reversed in the long run if institutional adjustment mechanisms are in place.

Among the most important of such mechanisms are property rights in land and properly functioning markets for labor, capital, and goods. Such markets permit the initial effects of population growth to be registered in the form of price changes, which can trigger a variety of adjustments, including the introduction of other factors of production that have become more valuable as a result of the increase in population; a search for substitutes for increasingly scarce factors of production; intensified research to find production processes better suited to the new conditions; reallocation of resources toward sectors . . . in which demand may be most responsive to population change . . ."

The effects of population growth upon economic development are in-

fluenced by how institutions respond—how quickly and how well. Where these responses are reasonably prompt and appropriate, population growth rates probably matter very little to the determination of income levels and growth rates.

But where institutions change very slowly—as seems to be true in many African countries—rapid population growth may have serious adverse effects upon income. This is true even though African countries may be underpopulated in the sense that population density is too low to permit an efficient, low cost infrastructure including rural roads, market centers and marketing institutions as well as schools and research institutions.

A Population Policy

What population policy do I support? I know of no better population policy than that of providing people with access to the information and means that are required for them to have the number of children each family or couple desires.

If this leads to a 1 percent, 2 percent, 3 percent or zero percent population growth rate, so be it. Whatever effects population growth may have upon economic development, the effects are very small within one or two generations—either plus or minus—compared to the effects of other variables, such as the role of markets, the openness of a country to international trade, the macro management of the economy and political, social and economic freedom.

Consequently, I have no problem in supporting family planning programs and in the United States providing assistance for such programs. I can see no circumstances in which the negative effects of population growth are so serious to justify coercive measures. In my view, however, we should assist family planning efforts for the proper reason—namely as a contribution to the welfare of families, resulting from their increased ability to control their fertility, and not for the presumed effects upon population growth. ■

The report of the National Research Council, "Population Growth and Economic Development" can be obtained by writing to: The National Academy Press, Suite 700, 2101 Constitution Avenue, NW, Washington, D.C. 20418. The cost is \$10.00. You may call in your order by dialing 202/334-3313.

DO YOU KNOW . . .

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That proceedings from a conference on "Interdependencies of Agriculture and Rural Communities in the Twenty-First Century: The North Central Region" are available?

It contains papers presented at a conference in February 1985. It doesn't provide quick prescriptions for the many difficulties confronting rural communities today. However, the 16 principal papers and responses to these papers include a number of concepts useful in thinking about approaches to problems of rural communities and the interdependencies between agriculture and communities. The proceedings were edited by Peter Korsching who was the lead person in organizing the conference and Judith Gildner. For a copy, write to The North Central Regional Center for Rural Development, Iowa State University, Ames, Iowa 50011. Single copies are available without charge.

Do You Know . . .

One of the primary sources of numbers related to agriculture—Agricultural Statistics, 1985?

If you are involved in dealing with the economics of the farm sector or its major subsectors you need numbers. One important highly useful source is Agricultural Statistics 1985 with over 500 pages of data relevant to agriculture and food. It is prepared by the National Agricultural Statistics Service of USDA. For a copy write to Superintendent of Documents, Government Printing Office, Washington, D.C. 20402. The domestic U.S. price is \$10; the foreign price is \$12.50.

Do You Know . . .

Where bovine growth hormone research is being conducted?

In the second quarter 1986 CHOICES, Professor William Hansel wrote about bovine growth hormones and its potential to increase U.S. milk production. However, he didn't identify the institutions that are conducting related research nor the level of expenditures for this research. It is extensive. Telephone conversations with university officials and employees of private corporations conducting research and/or financing the university research indicate that 26 U.S. universities, 3 USDA research centers, and 6 foreign universities are involved. I am still gathering information about the level of expenditures

and about industrial firms that are conducting research and financing some of the research at the universities. In the meantime, I thought that CHOICES readers would be interested to know the universities and the ARS research centers.

They include:

UNITED STATES (29)

University of Arizona
University of California
University of Florida
University of Georgia
University of Idaho
University of Illinois
University of Kentucky
University of Minnesota
University of Missouri
University of Pennsylvania
University of Wisconsin
Iowa State University
Oklahoma State University
Oregon State University
Michigan State University
Mississippi State University
New Mexico State University
North Carolina State University
Penn State University
Washington State University
Auburn University
Clemson University
Cornell University
Ohio University
Texas A&M University
Virginia Polytechnic Institute and State University

ARS Research Centers

USDA Dairy Forage Research Center, Madison, Wisconsin
USDA ARS Animal Science Institute, Beltsville, Maryland
USDA Roman Heruska Meat Animal Research Center, Clay Center, Nebraska

OUTSIDE THE UNITED STATES

University of Alberta, Alberta
University of Guelph, Ontario
Lenoxville Research Center, Quebec
McGill University, Quebec
National Institute for Research in Dairying, Great Britain
National Institute of Animal Sciences, Denmark

Contributed by Howard Rosenberg

Do You Know . . .

Every month from August 1971 until May of this year—nearly 15 years—the value of U.S. farm exports was greater than the value of farm products imported by Americans from other countries?

But in May 1986 it was the other way around. The value of farm exports was less than the value of farm imports. \$1.86 billion (f.o.b. basis) in comparison to 2.0 billion (customs basis).

Contributed by Thomas Warden.