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PROSPECTS FOR REDUCING BIRTH RATES IN DEVELOPING COUNTRIES: THE INTERPLAY OF POPULATION AND AGRICULTURAL POLICIES*

When the Food Research Institute was founded 50 years ago, there were just over 100 million people in the United States; today there are somewhat over 200 million. Where there was one of us before, there are two of us today. The same is true of the world. The population of the world has also doubled massively from 1.8 to 3.6 billions.

The Institute was founded out of concern for food shortages after World War I. However, it has been concerned, not with a temporary crisis, but with the tough, long-standing problems of food, agriculture, and more broadly the rural life in which the majority of the human race still lives. These problems are not new and, of course, antedate present concern about the population "explosion."

In the last 50 years real progress has been made. The world is feeding its much larger population, if anything, better than it was fed in 1921. True, as alarmists are fond of pointing out, there are more hungry mouths than ever before. But this is simply because there are also vastly more people. What the alarmists don't say is that the *proportion* hungry has fallen and that famine, aside from war, has disappeared. Food shortages sometimes, yes; famine no, except from the ravages of war.

Of course you will say the record is not so good as it might be and everyone will agree. Also, the situation has changed since 1921 in several ways:

First, the gains have been unequal, concentrated in the one-third of us who live in the richer, industrialized countries. There is mounting evidence that even among our minorities, for example the blacks and the browns, obesity is a far greater problem than hunger. But the other two-thirds of the human race, living in the poorer countries, have made far too little progress.

Second, the problems of hunger, malnutrition, and rural poverty are now per-

* Opening address, December 13, 1971, at the Conference on Strategies for Agricultural Development in the 1970s, sponsored by the Food Research Institute on the occasion of its fiftieth anniversary in collaboration with the Agricultural Development Council and the Overseas Development Institute, at Stanford University.

ceived as resolvable; the very existence of these problems is a disgrace to man's present capabilities. It is not so much that the basic problems have changed; we are more poignantly and more practically aware that something can be done about them.

Finally, the population is growing much faster than it was in 1921. Not in the United States and the industrialized countries, where growth is now 1 per cent or less per year, but in the poor countries least able to cope with the almost inexorable expansion in numbers.

As we look ahead, instead of backward, the developing nations must run faster and faster to stay in the same place. Their population growth has accelerated; agriculture and the economy have had to move faster and faster to keep up and to gain. Most countries have indeed made gains. The rhetoric about the population "explosion," "bomb," "crisis" (what you will) has obscured the fact that the economies of most developing countries have indeed kept pace with population growth and many have moved ahead to provide a rising per caput income. One could marshal a welter of information to demonstrate this—information on education, on health, on communications, on economic output—but such data are readily available in international compendia.¹

There seems to be no immediate worldwide shortage of food. The problem is one of inequality in the availability of food. Many of us have a surfeit; but there are indeed many millions, indeed hundreds of millions of people, who do not have the means to obtain an adequate diet.

Even the present situation cannot be maintained indefinitely without a reduction in the rate of population growth. Many countries are still on the razor's edge. In some countries, like Bangladesh, a pathetically small margin separates the normal from the catastrophic. Nor can any amount of technological progress in the very long run keep up with the 2½ per cent rate of population growth now occurring in the developing countries. In the long perspective zero population growth is not just a cause or a goal; like the laws of motion it is a law of nature. Any nonstop rate of growth, no matter how small, will ultimately lead to disaster. This is true of population as it is true of the spawning of automobiles, or of the appalling increase in crime, or even the rising production of artichokes, which in a few centuries will inundate the entire world at present rates of increase. Zero population growth or something close to it will come about one way or another—by more deaths if not by fewer births.

I presume that most of us would prefer the alternative of fewer births. What are the prospects for this in the developing world?

We may begin with a few words on why we have enormous population growth. It is not always recognized that it is a side effect of general improvement in the human condition, notably in the saving of lives and the reduction of disease and physical suffering. Aside from war and civil strife there isn't a country in the world that has not made progress in health, in education, and in some of the amenities of the modern world. Again there is a tremendous mass of information to document this fact in the compilations of the international agencies; perhaps its very mass has obscured it from general understanding. Certainly it has been

¹ For example, in recent issues of the *Statistical Yearbook* of the United Nations.

obfuscated by publicists anxious to find the world on the brink of massive famine or ecocatastrophe.

SOME REASONS FOR OPTIMISM

The population expansion is due to reduction in the death rate, not to some new increase in human reproductivity. But the birth rate must be reduced to bring a new balance at lower and more humane levels of both mortality and natality. What are the prospects? First the reasons for optimism and then some reasons for pessimism. We are confronted with an enormous problem, but there are lively harbingers of hope. Let me mention a few:

First, *present trends in the birth rates*. What is not generally understood is that birth rates are indeed already falling in many of the developing countries. Of 47 such areas listed by the United Nations as having "virtually complete" registration of births, 42 report a reduction of the birth rate between the early 1960s and late 1960s. These reductions are occurring in the more advanced countries of widely divergent cultures—in East Asia (Korea, Taiwan, Hong Kong); in Southeast Asia (Malaysia, Singapore, Ceylon); in the Islamic world (Turkey, Tunisia, Albania, and the Soviet Central Asian Republics); among the blacks of the West Indies; and in Latin America (Chile, Costa Rica, Cuba, and very likely now Mexico, Panama, and others). True, I haven't mentioned the giants—China, India, Pakistan, Indonesia, Brazil, and Nigeria. In these countries the statistics are inadequate to determine short-run changes in birth rates; there is no solid evidence that birth rates are going down nor indeed is there any better evidence that they are not. We simply don't know. We have some evidence, however, from new censuses. In Brazil, for example, the 1970 census figures fell millions short of the predicted figures. In India the 1971 census showed 15 million less than the precensal estimates. In some of the more developed *parts* of these countries there is positive evidence of reductions in the birth rate such as in southern Brazil and in the Punjab of India, relatively affluent regions of those countries. It is only a beginning, but a tremendously important one.

A second point. *Once declines in the birth rate have started they have moved down much faster than they did historically in the United States or in Europe*—more than twice as fast. And the higher they are the faster they fall. Here at Stanford we have a major study going on this. But again I won't elaborate here—the early results of our study are spelled out in a recent report published by the National Academy of Sciences (1). The basic conclusion is that once reduction is under way it may take only about 20 years to bring birth rates down to levels of replacement, a process that took 50–70 years historically in Europe and the United States.

A third basis for optimism is the present *climate of opinion* and the *adoption of family planning policies*. The climate of opinion is much more favorable to the adoption of birth control than it was historically in Europe and the United States. In the latter, birth control was firmly opposed by legal repression of the state and by moral repression of the Protestant, as well as the Catholic, Churches. Now all this is changed. Even the Catholics and the Communists have moved toward acceptance of the need for population limitation.

It is frequently said that voluntary fertility control involves rationalistic con-

cepts not only foreign but unacceptable to the governments, the cultures, and the people of the poorer countries. This is not the case. Peoples of very divergent cultures have proved quite open, more open than we have been, to frank discussion of birth control and to public policies on population limitation. Some 30 countries, all countries of the less developed world, now have family planning programs and all are thereby ahead of the United States.

Now a pronouncement is not a policy; a policy is not a program; and a program does not always mean performance. A good game is talked long before it is played. Those with a pre-made position to confirm will find these programs successes or failures in accordance with predetermined points of view. What is remarkable is that family planning policies have so quickly become a standard part of development programs—among the giants—China, India, Indonesia, and Pakistan—as well as among the pygmies—like Mauritius, Barbados, and the Fiji Islands. The performance is less imposing—some 15 million “acceptors” of birth control through the public programs. Whether you regard this as “only” 15 million or “fully” 15 million depends on your perspective. It is only marginal in meeting the needs of some 300 million couples living in the less developed world (leaving aside mainland China). It can be considered only a start but it is also a promising one for programs so recently established.

Another very practical source of optimism is this: there is clearly a large and growing *motivation to practice family limitation* throughout the less developed world. This observation is not just casual speculation. It has been documented by field surveys in many countries in all parts of the world. Admittedly much of this is based on verbal responses as well as on actual behavior. The word is different from the deed. But there is also evidence of rapidly rising use of contraceptives and of abortion. We middle-class Americans all too often assume that poor people and peasants of other cultures do not share our own concern for the education and well-being of children. Fortunately this is an ethnocentric myth. People of all cultures who have become modern in the sense of literacy, better health, and higher levels of living have all responded by reducing their birth rates. *All* countries—and I mean literally every single country—that are economically developed now have a low birth rate. In the less developed world, countries now making rapid socio-economic progress are experiencing rapid reduction in their birth rates. And fortunately *all* countries, *no matter how poor*, are moving in this direction, though many have not yet reached the threshold of development where fertility starts to go down.

Finally, the implementation of changing motivations is now being facilitated by *better contraceptive technology*. Better methods may substitute somewhat for social change, though I suspect birth control enthusiasts are too optimistic about what better techniques can do. Changed motivation and changes in ways of life are the tide; better methods of birth control are a wave atop the tide that will speed it on its way.

And indeed the tide is with us. The question is whether it can move fast enough. So let's look at the negative side.

REASONS FOR CAUTION

Above all, one constantly comes back to the hugeness of the problem. In the

less developed areas, including mainland China, there are over 400 million couples in the reproductive ages. And this number grows by more and more each year, now by about 10 million a year. To persuade, induce, or coerce such an enormous mass of people to practice birth control and reduce their family size is a Herculean task, a job for Zeus himself. In fact it cannot be done from outside or by anyone playing God: it must be done by the people themselves.

It follows that what we need is not so much a crisis mentality as a long-term campaign. With such an enormous problem it is fatuous nonsense to expect quick results. What we have is not so much an explosion or a bomb as a relatively slow-moving but vast, relentless force. We do not confront imminent famine nor in most countries is there any immediate prospect for deterioration in levels of living; progress is being made, but often all too small in the face of this slow, grinding force of population pressure.

It is interesting that the problem is often more realistically perceived in the countries affected than in the would-be "sophisticated" halls of American academia. As someone has said, Malthusianism worries only the rich and affects only the poor. Poor countries more readily recognize the longtime, persistent character of the problem. To them it is a matter for long-term planning and struggle, not a crisis that suddenly arises and then may be blown away by verbal legerdemain or instantly resolved by bizarre solutions.

A word about coercive measures proposed—such as compulsory sterilization after the *n*th child, tax punishments for excessive childbearing, or putting sterilizing agents in the water supply. As has been said, such measures, even if technically feasible, which they are not, would be more likely to bring down governments than to bring down birth rates. Quite aside from their morality or social justification, these measures are unlikely to be politically acceptable even in the most totalitarian regimes. We may be reminded that even the power of Imperial Rome failed, fortunately, when it tried to eliminate all the firstborn infants in Judea in the year 4 B.C.

In this sort of thing the public is more easily led than pushed or threatened. There seems to be no easy shortcut around a massive social transformation, facilitated by programs making knowledge and services for contraception and abortion available to all and by the discovery of cheaper, surer, and safer methods.

Fortunately all this is happening, though surely not so fast as we would like. The moral is this: It would be naïve to expect any early resolution of the population problem. There are obdurate reasons why.

First, given a modicum of peace and progress, death rates will continue to go down. Thus birth rates must go down just to hold even the present high rates of growth. So there is a handicap to begin with.

Second, no one in his right mind could expect all of 400 million couples to adopt efficient birth control in one year, in five years, or even in ten years. We may expect rates of population growth to go down relatively slowly, as I have said, taking 20 or 30 years to make a transition that took 50–70 years in Europe and the United States. But the first steps are also the most important: to reduce rates of population growth from 4 per cent annually, as they are in some places, to 3 and then from 3 to 2 and from 2 to 1 per cent. Zero will take a long time. Even after a population reaches a basic 2-child average family it will continue to grow for

years because, as in the United States today, the population will be concentrated in the young ages when people have children but during which they (the parents) rarely die. This distortion of the age pyramid contributes to the inertia.

Because of this "braking distance" factor there is no realistic possibility that reduction in human fertility can be a substitute for economic development in the 1970s. Even if birth rates go down rapidly the pressure on the economy will not be relaxed immediately. Babies and small children are not large consumers; reduction in their number will not have much immediate effect in damping the expanding needs for food, shelter, education, and other services. The children and young people who will cause this during the 1970s are already born.

The principal effects on the labor force are of course even longer delayed. Reduction of birth rates now will only begin to affect the number of persons entering the labor force some 15 years hence.

Investment in family planning programs and reduction of the birth rate, no matter how advantageous in benefit-cost terms, is in fact a long-term investment and not in any major way a solution for the economic problems of the 1970s. It is much more for those of the 1980s and still more for the 1990s.

It doesn't follow that family planning programs are not important. If it takes a mile to stop a speeding train and if collision is a mile away it would be reckless not to apply the brakes right now. That is the reason for action now.

Fortunately the brakes are beginning to be applied by the people themselves. It is a good guess that United Nations' medium estimates of 6.5 billion people in the year 2000 will not be reached, at least not by the year 2000. Many of the more progressive countries, some of which I mentioned earlier, will probably reach low European birth rates before the end of the century. There are now good grounds for predicting an ultimate solution of the problem, but certainly not before the end of this century or before we have massive increments to our world population. The consequent effects on the economy, the society, and the world polity are well known.

I've sketched the grounds for hope and the grounds for reservation in the prospects for reductions in the birth rates in the developing countries. As you see, I lean to optimism. Now, briefly, what about the interaction of population policies and agricultural programs?

I have said that the most powerful force in controlling population growth is modernization, aided and abetted by family planning programs and better methods of birth control. This involves much more than governmental decisions: it involves the voluntary decisions and actions of hundreds of millions concerned for their own interests and for the welfare of their children. It is not a matter for the decisions of a few; in its very nature it is a matter for the decisions of the masses. Perhaps that is why, without really intending to do so, Communist countries have experienced more rapid reductions of the birth rate than capitalist countries at similar levels of development. They have been concerned with changing the way of life of the masses, as well as in maximizing production.

Some economists, happily a shrinking number, seem to be all too concerned with maximizing production and not enough with the social and political consequences. Production is a sacred cow; the maximization of output, by whatever means, is self-justified. Some planning boards in developing countries also seem

enamored of this philosophy. If large landowners can provide the needed surplus for the market they are assisted in obtaining tractors, fertilizers, and their other capital needs for maximizing output. It is more difficult and presumably slower to get the myriad of smallholders to adopt new technology and to increase their surplus enough to achieve national self-sufficiency in a market sense. In any event the smallholder is likely to dissipate some of his new gains in better feeding himself, his family, and his animals.

No strategy aimed at reducing population growth can ignore the rural masses. These are three-fourths of the population in the developing countries today—close to two billion people. According to United Nations' "medium" estimates their number should increase about another billion to make close to three billion rural people in the developing countries by the year 2000. This is despite the assumption of enormous rural-urban migration and the expectation that urban areas will absorb an increase of one and a half billion in that period. Even with this assumption the majority of people in developing countries will still be rural in the year 2000 (2, pp. 53-66).

Happily, perversely, and entirely contrary to Malthus, we see that throughout the world when a people become prosperous they have fewer children. An agricultural development strategy that improves the lot of the agricultural masses (rather than just the larger, perhaps more efficient producers) will accelerate the demographic transition from high to low birth rates. A landed peasantry with rising income and rising aspirations has very tangible reasons for family limitation—a landed peasant does not wish to divide his land among many sons or to jeopardize the advancement of his children by having too many. Landless laborers have no such motivation. More children are simply more hands. Furthermore, a more equitable distribution of income (even if a lower aggregate) creates a mass market for simple goods domestically produced as opposed to luxury items often available only from abroad at the cost of precious foreign exchange. I realize that this is an oversimplified example of one way in which agricultural strategy may affect motivation to family limitation, but hopefully it will illustrate my point.

The relation of equitable income distribution and reduction of the birth rate is suggested by the experience of Taiwan and South Korea. The distribution of income in these countries has been increasingly equalized so that all sections of the population have shared the benefits of economic progress. The birth rates are falling precipitously and birth control is rapidly becoming almost universal. This is not just coincidence. I think these are realistic models for what might be done elsewhere. Much more will be said about problems of income distribution in papers being presented at this conference.

SUMMARY

A few concluding remarks by way of summary:

The populations of the world and the United States have roughly doubled since the founding of the Food Research Institute. Such a doubling in the next 50 years seems most unlikely in the United States and the other industrialized countries. But no such forecast applies to the developing nations, who are two-thirds of the human race. Barring catastrophe of whatever kind—such as atomic

war, widespread civil disorder, or vast epidemics—these countries will indeed double their populations again in the next 50 years and most will double much sooner than that.

The world population problem, I have said, is neither an explosion nor a bomb nor an instant crisis to be blown away by alliterative slogans and rhetorical overkill. The world is not in imminent danger of famine nor of serious deterioration of present living standards. The effect of population growth is quite different: a slow, grinding, implacable restraint on economic progress. Some economic gains have been made, even in the most backward countries, despite massive population growth. But it has frustrated the more rapid achievement of legitimate aspirations for a better life. The problem will not be resolved over-night, nor even in a single generation. It will take patient, sustained effort, often in undramatic and prosaic programs providing family planning services to a growing constituency over at least a generation. More than anything else it involves changing the motivations of hundreds of millions of people by giving them the hope and means for a better human condition. Since the great majority of people in the developing countries are rural, this means that agricultural and rural development strategy is the most important single factor than can bring this about. A strategy that promotes the wellbeing of the rural masses will also be a strategy most likely to accelerate reduction of birth rates, and thereby a resolution of the world population problem.

CITATIONS

1 Dudley Kirk, "A New Demographic Transition?" in *Rapid Population Growth*, II, 2 (Rept. of Study Comm., Off. For. Secy., Natl. Acad. Sci., Baltimore, Md., 1971).

2 United Nations, Dept. Econ. and Soc. Affairs, *The World Population Situation in 1970* (Pop. Studies No. 49, 1971).