GLOBAL POPULATION IN PERSPECTIVE: IMPLICATIONS FOR U.S. POLICY RESPONSE

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IT NOW appears evident that one of the most controversial issues which will be debated at the World Population Conference in Bucharest in August 1974 will be the question of resource consumption. Stimulated by the current global energy crisis and food shortage, discussion of this issue cannot be avoided at this United Nations gathering. The fact that this basically nondemographic issue should arise at a meeting called to plan responses to the world-wide challenges of changing population phenomena is itself a striking indication of the increasing awareness of the interrelationship of population phenomena with numerous other social, economic, and political variables. No longer is it possible—if it ever were—to talk about responses to population problems and focus only upon fertility control. Even the broadening of discussion beyond birth rates to include mortality rates and internal and external migration patterns is today inadequate. To address the issue of population in a manner which both enhances understanding and facilitates effective action, population must be placed within a wide perspective.

One perspective which offers insight into policy responses by both government and church is a discussion of the interrelationships between population, development, and consumption. For our purposes here, in a theological journal published in the United States, we will attempt to (1) identify some of the reasons for the heightened emphasis upon the interdependent character of population phenomena, (2) examine the debate on the relationships of population growth to economic growth in the developing countries, (3) explore the more recent focus on the impact of consumption patterns in the developed countries, and (4) suggest some policy response by the United States government and the United States Catholic Church. Our aim is to provide an overview from the starting point of a social scientist; it is not to formulate explicit theological reflections.

POPULATION AND THE "LIMITS TO GROWTH"

The astounding statistics of world population growth are more and more familiar to us all. It is estimated that the population of the world at the time of Christ was around 300 million people. By the year 2000, more than 6 billion people will inhabit the earth, an increase of some 20 times over. But of this total expected growth over a period of 2000 years, only

about 8 percent occurred in the first 1750 years, and 30 percent took place in the 200 years between 1750 and 1950. Between 1950 and the year 2000, the remaining 62 percent of the growth is expected to occur. The world's total population is now doubling every 35 years.

Something which is also becoming increasingly familiar to us is the manner in which population growth rates are related to other variables in the global system which is our world in the last quarter of the twentieth century. An event which recently focused wider attention on the interrelated character of the global system was the publication in 1972 of the Club of Rome study *The Limits to Growth*. An international group of industrialists, scientists, and humanitarians, the Club of Rome commissioned a team of systems analysts and computer experts at the Massachusetts Institute of Technology to study the "predicament of mankind," that complex of modern problems troubling all nations: "poverty in the midst of plenty; degradation of the environment; loss of faith in institutions; uncontrolled urban spread; insecurity of employment; alienation of youth; rejection of traditional values; and inflation and other monetary and economic disruptions." [1] Their findings have stirred considerable controversy in governmental and nongovernmental offices, in development circles in both the rich nations and the poor nations, and among academics.

What the "Limits to Growth" study did was to relate five significant variables which determine and, in their interactions, ultimately limit growth on this planet. The variables identified were: population increase, agricultural production, nonrenewable resource depletion, industrial output, and pollution generation. The MIT team fed data on the exponential curves which these five variables presently manifest into a complex computer model of the evolving globe, and then tested the behavior of the model under several sets of assumptions to determine alternative patterns for the future. Given the current rates of growth, the study predicted imminent and inevitable catastrophe within the next 100–150 years. In a world that is *finite*, continual growth is simply not possible. Population and production levels would have to be curtailed, since even advanced technology would only eventuate in a postponement of the disaster and not in its avoidance.

This article is not the place to go into a thorough analysis of the merits and/or demerits of the Club of Rome study (and there are many of both). The debate stirred by the "Limits to Growth" thesis has been lengthy and heated and reveals that challenge to the "growth is good" dogma is heresy of the most serious kind among some economists and in the

[1] Donella H. Meadows *et al.*, *The Limits to Growth* (New York: Universe Books, 1972) p. 10.

business community. The adequacy of the data has been challenged and the cogency of the model questioned. Severe critiques have been published and various countermodels proposed. But I believe it is accurate to say at this point that even if the argument of *The Limits to Growth* is 50 percent incorrect, it still presents a stark picture of the future for us to contemplate. As such, it must be faced realistically and with openness to its many implications.

Because of the implications for our effort here to place population in perspective, three significant aspects of the "Limits to Growth" discussion should be noted:

1) The model points to the adverse effects of industrial development in terms of the high levels of pollution and consumption, and thereby challenges the economic growth syndrome. This highlights the impact on the global system of affluent, industrialized nations such as the United States, with our very high levels of pollution and consumption.

2) The model does not sufficiently take into account various social variables—factors such as education and participation in decision-making. It thereby leaves itself open to the charge of considering development only in economic terms and neglecting the human motivation which might challenge the "doomsday" character of the argument. Such a challenge could modify the so-called inevitable outcome of catastrophe.

3) The model raises as the fundamental question of the future the issue of global social justice by pinpointing as the critical policy question in a finite world the problem of distribution. In a finite world of decreasing growth rates, "trickle-down" theories of economic benefits make less and less sense. Rather than making the pie larger and larger in order to increase the size of the poor nations' share, it will be necessary to slice up the pie anew. This has particular relevance, of course, to the relations between the developed nations and the developing nations.

The questions raised in the "Limits to Growth" debate—whether arising directly from the Club of Rome study or from counterpositions expressed in critique—have tended to reinforce a movement in population studies which has been evident in recent years. This movement has been toward a more integral view of the interdependent character of population and social phenomena. Population growth is seen as being interrelated with all other aspects of social and economic change, with the environment, and with technological developments, and thus is viewed as both an independent variable and a dependent variable. In terms of what is truly a global social crisis—the "predicament of mankind" described by the Club of Rome—population growth itself is not the only problem, nor the cause of all problems, nor the major obstacle to the solution of all problems. Such a view, as we shall see, has significant policy consequences.

POPULATION AND DEVELOPMENT

When a holistic approach is taken in viewing the issue of population, central to the discussion is the relation of population to development. This is of particular interest, of course, in the developing countries, where two thirds of the world's population now live and where the largest increase in population growth is occurring. Controversy over this relationship constitutes one of the oldest debates in population literature. The lines of debate are frequently labeled "Malthusian" and "Marxian," after the two most famous proponents. Much of the current discussion over global population policies is related directly or indirectly to these traditional lines of argumentation which have persisted since the nineteenth century.

1) The *Malthusian* line has emphasized crisis and focused on the possibility of systemic disasters characterized by famine and disease, exhaustion of natural resources, and ecological deterioration. Population growth is seen as threatening to precipitate these disasters and hence is a serious, if not insurmountable, obstacle to economic growth.

2) The *Marxian* line has been the structure of social and economic arrangements in a society as the prime determinant of that society's population profile. Population is a function of the socioeconomic system and problems of great numbers of people are primarily problems of such factors as nutrition and distribution, not of scarcity.

The translation of these two lines of argumentation into specific policies has meant—at least at the stage of proposals—that a unilateral emphasis has occasionally been placed upon responses in terms of either "population" approaches or "development" approaches. But either/or approaches are inadequate—the two are inextricably linked. The difficulties with the two positions taken in isolation can be seen in the following sketches.

1) There are those who argue that focus on development alone will provide a solution to the issue of poverty in the developing countries. This is countered by the argument that employment, education, health, transportation, housing, income distribution, and other socioeconomic development programs have little or no hope of success, given the very high rate of growth of population in the developing countries. Population is simply increasing too rapidly for the development goals to be achieved and what little gains are made are quickly consumed by more and more people. Without at least a slowing down of the rate of population growth—even in those countries where an increased population in the long run may be an asset—focus on development without attention to family-planning services is argued to be futile.

2) On the other hand, there are those who stress that the crisis of increasing population is so severe that primary attention must be focused

on curbing fertility rates. Such an approach, however, is open to the counterargument that it ignores the fact that family-planning programs are only effective insofar as they are utilized by persons motivated to use them, and motivation is directly related to a socioeconomic dynamic of development which generates hope in society. To set aside development goals for the time being in favor of massive efforts to control fertility is seen as an ineffective approach.

With a growing consensus, therefore, that an either/or approach will neither gain needed approval nor prove effective in the long run, the population-development debate has entered a new stage recently with proposals for a more integrated approach. That new stage is marked by two significant shifts in our thinking, through a reconsideration of development models and an examination of the success of family-planning programs.

The generally-accepted economic view of development, whereby progress is measured in terms of increase in rates of Gross National Product (GNP), has of late been severely questioned. The *quantity* of GNP tells us very little about the *quality* of its composition, and the latter has particular relevance to the meaning of development in terms of social and human goals. While GNP may increase, with an over-all rise in the per capita income of a country, there can still be serious human problems. One international economist suggests that the questions to ask about development are:

> What has been happening to poverty? What has been happening to unemployment? What has been happening to inequality? If all three of these have declined from high levels, then beyond doubt this has been a period of development for the country concerned. If one or two of these central problems has been growing worse, especially if all three have, it would be strange to call the result "development," even if per capita income doubled.[2]

If such questions are seriously asked, there will be some doubt about the so-called "success" of such development efforts as, for example, have been experienced in recent years in Brazil.

It is clear that traditional models of development—usually patterned after the Western European and United States experiences—are undergoing a serious challenge. A notable shift is taking place between a focus on primarily economic goals during the United Nations First Development Decade (1960–70) and a focus on more socially-oriented goals during the Second Development Decade (1970–80). This has meant less emphasis in the developing countries upon huge industrial, capital-

[2] D. Seers, "Challenge to Development Theories and Strategies," in *International Development* (Dobbs Ferry, N.Y.: Oceana Publications, 1970) p. 7.

intensive projects such as steel mills, hydroelectric power plants, automobile factories, etc., and more emphasis upon the agricultural sector, labor-intensive manufacturing, and the social infrastructure such as schools, housing, medical care, participation, etc. Although it is too early for definitive evaluations, it is already clear that this shift has had an impact on national planning, patterns of foreign investment and foreign assistance, and political developments.

A second notable shift in thinking has occurred with a critical examination of the success of family-planning programs set up in many of the developing countries during the 1960's. After World War II, it was part of the conventional wisdom to view population growth in the developing countries as an inevitable outcome of the process of modernization. Modern public-health, sanitation, nutrition, and education programs resulted in improved maternal and child health care, and infant mortality rates declined rapidly. At the same time birth rates remained high. The result was the so-called "population explosion," which was dramatically revealed in the various censuses of the late 1950's and early 1960's. The developing countries were experiencing an average rate of population growth of 2.6 percent; total population was doubling every 27 years. This growth was seen as a serious impediment to economic progress, because (1) in the short run it put a burden on the economy to support numerous dependents and (2) in the long run it placed large numbers of people in the labor force and thereby aggravated problems of unemployment.[3]

To overcome the impediment to economic progress posed by rapid population growth, family-planning programs were introduced—often on a fairly large scale—in many developing countries. By 1972, 87 percent of the people in the developing world lived in nations whose governments had an official policy to limit population growth through family-planning programs or to support family planning for other than demographic reasons (e.g., health needs). Yet such programs are only effective if they are utilized. Although there has been a notable increase in the promotion and use of family-planning programs, it has frequently been pointed out that the increase is indicative not so much of a continually rising trend as of a demand already present and waiting to be filled. As one author comments:

> ... in many cases, high initial acceptance rates of family planning reflect the tremendous initial lag in the provision of these services where demand already existed for modern methods of birth control to replace cruder and frequently

[3] This argumentation was applied to India in the classic study of A. J. Coale and E. M. Hoover, *Population Growth and Economic Development in Low Income Countries* (Princeton, N.J.: Princeton Univ. Press, 1958).

more dangerous means, such as abortion. The numbers of those who resort to birth control assistance should not be expected to continue to increase at the same dramatic rate once this pre-existing demand has been met.[4]

A major question being asked today, therefore, is not simply about how to provide more family-planning programs (though increased services are necessary) but about how to stimulate *motivation* to encourage a greater number of families to desire fewer children.

These shifts toward more social emphasis in models of development and toward more attention to the motivational aspects of family planning have meant that in the population-development debate there is more openness at the present time to an integrating approach. This integrating approach rests upon a reinterpretation of what demographers refer to as the "threshold hypothesis." This hypothesis states that a certain level of per capita income—usually one significantly higher than presently exists in the majority of the developing countries—is necessary before birth rates will decline. Until this higher level of per capita income is attained, population stabilization is believed to be unattainable. Some recent studies, however, have begun seriously to question that belief, and have pointed to the need for attention to be paid to the *distributional aspects* of socioeconomic development. There is evidence that birth rates in certain countries have dropped notably despite relatively *low* per capita income where a very broad spectrum of the people has had a share in what socioeconomic gains are in fact being made. Where increases in the output of goods and social services are distributed for the benefit of a substantial majority and not just a small minority of the people—that is, where development strategies aim to bring about improvement in the welfare of the *entire* population—then a significant long-term impact appears to be made upon reducing population growth.

In a study published in 1973 by the Overseas Development Council, Rich has discussed the relationship between a mix of development strategies and a reduction in population growth. The mix includes a focus upon income distribution, health-care systems, literacy programs, land reform in the agricultural sector, employment policies in the industrial sector, and encouragement of savings among the poor. Rich compares a variety of developing countries in terms of these elements of socioeconomic development and concludes that many countries which have a relatively low level of national production are still able to affect fertility rates if relatively equitable distribution patterns exist. Countries with equal or higher levels of per capita GNP but poor distribution

[4] William Rich, *Smaller Families through Social and Economic Progress* (Monograph No. 7; Washington, D.C.: Overseas Development Council, 1973) p. 2.

patterns do not fare as well. There appears to be a cumulative effect of appropriate development policies, in conjunction with family-planning availability, which makes it possible in some cases for the "threshold hypothesis" to be realized at a much lower level than was earlier expected. A dramatic instance of this can be found in the following comparison of selected indicators of living conditions in South Korea and in Brazil, as reported by Rich:[5]

		South Korea	*Brazil*
Population Growth Rates	1958	3%	3%
	1964	2.7%	2.9%
	1971	2%	2.8%
Income per capita (1971)		$280	$395
GNP growth rates in the 1960's		9%	6%
Ratio of income, richest 20% to poorest 20% (1970)		5 to 1	25 to 1
Literacy (1970)		71%	61%
Infant deaths per 1,000 births (1970)		41	94
Unemployment		negligible	serious
Effective land reform		Yes	No
Family planning program		Yes	No

Another 1973 study, authored by Kocher and published by the Population Council, reached substantially the same conclusions while focusing primarily upon factors affecting rural development. About 70 percent or more of the population in the developing countries are rural at this time; despite high rates of urbanization, by the year 2000 some 50–60 percent of the total population of the developing countries will still be rural. Without progressive modernization of this rural sector, fertility decline will be minimal. Kocher sees the primary mechanism for stimulating this modernization to be "a dramatic increase in effective demand in the labor-intensive sectors through a more equal distribution of income."[6] Equality in the distribution of the development process and its benefits leads to a more rapid modernization process among a larger proportion of families, which in turn brings about a more widespread desire for smaller families. This is the case because "modernization brings reduced mortality, higher educational enrollments and achievements, material sources of satisfaction in addition to children, less need

[5] *Ibid.* p. 36.

[6] James E. Kocher, *Rural Development, Income Distribution, and Fertility Decline* (New York: The Population Council, 1973) p. xi.

to depend on children in one's old age, and in addition tends to be a self-reinforcing process." [7]

Kocher discusses the great differences in income distribution between nations which have more equitable patterns, such as South Korea, Japan, Taiwan, and West Malaysia, and nations with great inequity, such as the Philippines, Thailand, Mexico, and Brazil. The former group experiences a much lower fertility rate and is characterized by governmental policies and domestic institutions which widely diffuse modernization (for example, new technologies) among the people. The latter group, with a much higher fertility rate, exhibit a dualistic pattern of agricultural growth: a small proportion of the rural population experiences rapid improvements in income and living conditions, while most rural families show very little if any improvement.

It is significant that the kind of analysis offered by both Rich and Kocher rejects the development approach of "growth-first-and-let-distribution-come-later." They do so on the grounds that recent experiences as well as future projections do not seem to uphold the validity of such an approach. Left to itself, distribution has tended to become more and more unequal with rapid economic growth. We have no evidence that the pursuit of individual interests adds up to the common good. The contrary certainly seems to be true in the economic sphere of development. Thus it appears that the institutions and structures of society must pay close attention to the phenomenon of distribution if an environment is to be created wherein over-all fertility is affected. One distinguished economist, Simon Kuznets, has emphasized this point in stating that

> ... historical perspective suggests that a more deliberate population policy might consider not only the spread of knowledge of birth control technology, but also the ways in which the given institutional framework affects incentives on the part of a large proportion of people to shift toward greater investment in human capital and fewer children. This means exploring changes in economic, political, and social institutions that would enhance the interest of an increasing proportion of the population in the modern type of family.... [8]

In summary, then, it appears to be the case that when a more integrated approach is taken to development, the chances are better for stabilization of population growth rates in the developing countries. This is in no way to suggest opposition to family planning itself or to lessen the importance of family-planning programs in over-all socioeconomic plan-

[7] *Ibid.*, p. 61.

[8] Simon Kuznets, "Population Trends and Modern Economic Growth—Notes towards a Historical Perspective," Paper prepared for the United Nations Symposium on Population and Development, Cairo, June 1973 (United Nations Document E/CONF.60/SYM.I/4) p. 18.

ning. Family planning is a means to an end and its availability is desirable on many humanitarian, ethical, and utilitarian grounds. But our emphasis here is that fertility control is programmatically ineffective, not feasible, and politically and individually unacceptable if motivation for its use does not exist. That motivation will occur when societies offer their members alternatives that promise an improvement in their future quality of life—where a genuine socioeconomic dynamic of development is present and generating hope. The policy implications of placing population in such a perspective will be returned to at the conclusion of our article.

POPULATION AND CONSUMPTION

During the 1972 United Nations Conference on the Human Environment, a series of confrontations arose between the developed nations and the developing nations over the response which had to be made to threats to the global ecological balance. These confrontations at Stockholm had to do with the degree of responsibility for current levels of environmental pollution and for the share of expense to be incurred in forestalling further increase in the danger to the environment. The developing countries were being asked to curtail certain patterns of industrial development in order to curb ecological problems. They understandably argued that they could very well expect some assistance in the effort—and some compensation for the consequences of the effort—from those nations whose previous industrialization had precipitated a large part of the present global environmental crisis. And they pointed out that people in the rich nations were putting considerably more strain on the eco-system by reason of their affluent life-styles than were people in the poor nations. The response of the developed nations to these arguments and their implications was not at all favorable. The United States, for example, voted against the provisions for additional aid to developing countries to assist in environmental protection measures.[9]

A series of similar confrontations looms on the horizon as the Bucharest Population Conference draws near. Because of the kind of discussion stirred by the "Limits to Growth" debate and because of the arguments offered during the Stockholm Conference, a focus on population which does not take into account the impact of the life-style of the rich nations will stir considerable opposition. There is a strong *logical* argument which would challenge any position based on the impact of population growth on pollution and on exhaustion of resources which does not also take into account the marked variation in consumption

[9] Cf. Edward P. Morgan, "Stockholm: The Clean (but Impossible) Dream," *Foreign Policy* 8 (Fall 1972).

patterns between developed and developing countries. But there is an even more powerful *political* argument which would challenge continued efforts by the rich nations to maintain their position of privilege at the expense of the poor nations. It must be recognized that many of the population-control programs stimulated and financed by the rich nations are seen as just such efforts.

It is noteworthy that the Secretary-General of the World Population Conference, Señor A. Carrillo-Flores, pointed to this issue of potential confrontation during remarks made before the United Nations World Population Commission in October 1973:

> In several developed countries, and I would not mention any one in particular, we find respectable organizations that have considered it their duty to heighten the consciousness of the world of what they consider catastrophic prospects if the present rate of demographic growth continues, which as we all know has no precedent in human history. But let me say this: in many conversations that I have had in the course of a year, a question has been put to me from the peoples from the so-called Third World. "Why," I am asked, "does an equally strong movement not exist in the rich countries to urge them at least to stabilize their present levels of consumption, since it has been estimated that one inhabitant of these countries consumes twenty times as much as someone in a developing country?" [10]

To appreciate the force of the charge regarding consumption patterns exhibited by the people in developed countries, it is helpful to focus on three issues which have recently received considerable notice: (1) resource depletion, (2) energy and pollution, and (3) the food shortage. These issues are, of course, highly interrelated. Our attention in the brief review which follows will primarily be on the role and impact of the United States, noting the consequences for population policy.

Resource Depletion

The nonrenewable resources of the world are, to the best of both our philosophical and physical knowledge, of *finite quantity*. The 1970 report of the United States Council on Environmental Quality explained some aspects of this fact:

> Even taking into account such economic factors as increased prices with decreasing availability, it would appear at present that the quantities of platinum, gold, zinc, and lead are not sufficient to meet demands. At the present rate of expansion . . . silver, tin, and uranium may be in short supply even at higher prices by the turn of the century. By the year 2050, several more minerals may be exhausted if the current rate of consumption continues.

[10] A. Carrillo-Flores, "Statement before the Population Commission," Oct. 29, 1973 (United Nations Document OPI/CESI Features Pop/16) p. 3.

Despite spectacular recent discoveries, there are only a limited number of places left to search for most minerals. Geologists disagree about the prospects for finding large, new, rich ore deposits. Reliance on such discoveries would seem unwise in the long term.[11]

Depletion of resources is a problem of particular relevance to the developed nations. A combination of the United States, the Soviet Union, Europe, Japan, and Australia—a little more than one quarter of the world's population—accounts for about 90 percent or more of the world's consumption of energy and steel. The United States—which contains 6 percent of the world's population—consumes by far the greatest share of the world's resources, as the following chart indicates for ten key minerals:[12]

Resource	*US Consumption as % of World Total*
Aluminum	42
Coal	44
Copper	33
Iron	28
Lead	25
Natural Gas	63
Nickel	38
Petroleum	33
Tin	24
Zinc	26

Where does the United States go for its resources? We have become increasingly dependent upon the developing countries for a critical share of our energy supplies and other natural resources. Oil is, of course, the most publicized source of dependence, as this country now imports close to 25 percent of its petroleum. It is estimated that by 1980 the annual imports of oil into the United States will rise by $20 billion. But in other important resource areas we are also notably dependent. In 1970 the United States was importing 100 percent of its chromium, 94 percent of its manganese, and almost 70 percent of its nickel and tin. In the developing world, four countries control more than 80 percent of the exportable supply of world copper, two countries account for 70 percent

[11] *First Annual Report of the Council on Environmental Quality* (Washington, D.C.: U.S. Government Printing Office, 1970) p. 158.

[12] Cf. Meadows, *op. cit.*, pp. 56–59.

of world tin exports, and four countries possess over one half of the world supply of bauxite.[13]

This resource-dependence puts the United States in a particularly vulnerable position, as has already been experienced regarding oil and the political pressures of Arab states. At this point the population issue becomes critical, as the developing nations turn to the United States and ask whether we intend to approach global "population problems" as principally a matter of reduction of numbers (particularly numbers in the poor countries) or whether we will also face the issue of resource depletion by the rich countries. One American scientist has noted:

> In its examination of the impact of the US population on resources, as in its treatment of environmental problems, the Commission on Population Growth and the American Future may have left the most important stones unturned. For the Commission assumed, in concluding that the resource needs of an expanding US population can be met without great difficulty, that we would continue to have access to rich foreign deposits of fuels and minerals. Whether this actually will (or even should) be so hinges on deep and unresolved questions. How serious will the tensions be between the US and increasingly prosperous but resource-poor Japan and Europe, as we compete for the world's remaining rich ores? Will the US balance of payments be able to bear the bill? Does the rate at which the US extracts high grade raw materials from less developed countries today compromise the ability of those countries to develop tomorrow, when only low grade ores remain? Can the prosperity gap between the rich and poor nations of the world be narrowed at a meaningful rate without drastic modification of present patterns of resource consumption?[14]

In a finite world the grossly disproportionate patterns of resource consumption can be expected to come in for serious examination and significant political consequences. The United States must be prepared to face hard challenges from the developing world, upon which it is becoming increasingly dependent. The presumptions that (1) United States population can continue to grow and (2) United States consumption patterns can continue to rise are not compatible with global population policies which this country would promote in order to curb population growth rates in the developing countries. That is, they are "not compatible" in the sense that they will lead to political confrontations not only at the United Nations World Population Conference but in other forums in the years ahead. The issues of wasteful production, affluent consumption, and failure to recycle will be brought up by the

[13] Cf. C. Fred Bergsten, "The Threat from the Third World," *Foreign Policy* 12 (Fall 1973) 107–8.

[14] John P. Holdren, "Population and the American Predicament: The Case against Complacency," *Daedalus* 102 (Fall 1973) 35.

poor nations. The United States and other industrialized nations will have to come to realize that even a moderate growth in their population exerts a disproportionate pressure on global resources and that significant steps toward developing the poor nations may be possible only if in the developed world resource depletion is reduced and population size is stabilized.

Energy and Pollution

Another way of looking at the issue of consumption in the developed nations, and one that is obviously related very closely to what has just been discussed, is to examine the two problems of the energy crisis and of ecological pollution. Both problems have aspects which tie them to the global population issue.

Even before the introduction of Arab oil politics into the international arena, serious problems were facing the industrialized nations because of rising demands for energy. At present about 97 percent of industrial energy production comes from the fossil fuels of coal, oil, and natural gas. (Nuclear and solar energy on any large scale are so far a thing of the distant future.) There is a natural relationship between the process of economic development and the utilization of more and more energy to increase productivity and enhance the efficiency of human labor. This means that the developed countries of today are increasing their per capita consumption of energy at significantly higher rates than are the developing countries. For example, the per capita energy consumption in the world is estimated to be increasing at a rate of 1.3 percent per year, while the rate of increase for the United States alone is estimated at 3 percent per year.[15]

How long will the earth's supply of conventional fossil fuels last? Arithmetic projections are admittedly both difficult and risky to make. Coal will probably last the longest, perhaps 300–400 years before high-grade supplies are depleted. World petroleum supplies, on the other hand, as well as natural-gas reserves, are estimated to be substantially depleted in less than 100 years.[16] Increased rates of consumption may significantly shorten the time of these projections. It is particularly important to note that this fossil fuel will become considerably more expensive as (1) its scarcity increases, (2) cost of extraction rises, and (3) pollution-control costs begin to be felt. Rising expenses, of course, will be felt hardest by the developing nations.

It is again not at all difficult to appreciate the position of many in the

[15]Meadows, *op. cit.*, pp. 70–71.

[16] See Paul R. Ehrlich and Anne H. Ehrlich, *Population, Resources, Environment: Issues in Human Ecology* (2nd ed.; San Francisco: Freeman, 1972) pp. 61–64.

developing countries when they note in the developed world the wasteful expenditure of energy spent in overpowered cars, heating and air-conditioning of poorly insulated homes, extravagant electrical-lighting displays, innumerable household gadgets such as electric toothbrushes, automatic cheese grinders, and shoeshine machines. Population increases in poor nations exert nominal impact on the intensifying global energy crisis in comparison to the energy consumption patterns of the population of the developed world.

Ecological pollution is frequently linked to rise in population. As mentioned earlier, the Stockholm Conference on the Human Environment witnessed some serious confrontations between representatives from the developed nations and from the developing nations. Confrontation on related issues is likely at the Bucharest meeting. Pollution of air and water by reason of waste disposal, destruction of natural scenery, lead, mercury, and pesticide poisoning, urban crowding, noise pollution—these and other indications of environmental deterioration are increasing each year. But it must seriously be asked if the *principal* cause of these ecological problems is more people or the habits of the more well-to-do among the world's population.

The argument that pollution is the product of more and more people is often portrayed in very dramatic fashion. But such a presentation reveals one's perspectives and values. An interesting contrast in perspectives and values is offered by Pierre Pradervand, a demographer with long-time experience in Africa.[17] He notes the following description, given by Paul Ehrlich in *The Population Bomb*, of how the "population problem" suddenly dawned on him "one stinking, hot night" in New Delhi:

> As we crawled through the city [in a taxi], we entered a crowded slum area. The temperature was well over 100, and the air was a haze of dust and smoke. The streets seemed alive with people. People eating, people washing, people sleeping. People visiting, arguing and screaming. People thrusting their hands through the taxi window, begging. People defecating and urinating. People clinging to buses. People herding animals. People, people, people, people. As we moved slowly through the mob, hand horn squawking, the dust, noise, heat, and cooking fires gave the scene a hellish aspect. Would we ever get to our hotel? All three of us were, frankly, frightened. . . .Since that night I've known the feel of overpopulation.

Then Pradervand offers an African friend's reaction upon visiting Los Angeles, where Erhlich has lived. The reaction is strikingly similar to that of Erhlich, with one slight, intriguing difference:

[17] Pierre Pradervand, "Overpopulation and the Carexplosion," Excerpt from talk given at Consultation on Population Policy, Montreal, October 1973.

We attempted to cross the street on foot. The temperature was well over 100, and the air was a haze of fumes and smoke. The streets were alive with cars—cars gobbling gasoline from long pipes attached to gasoline wells, cars being sprayed with drinking water which would have sufficed for our families for one whole month, cars sleeping in the streets. Cars honking, yelling, screaming at each other. Cars twisting and forcing their way in front of other cars, cars forcing terrified pedestrians onto the narrow pavements, cars ramming into each other, cars running over pedestrians—we were almost killed twice. Cars defecating billows of toxic fumes which can't be used to fertilize the fields like our nightsoil, cars urinating dribbles of oil. Cars, cars, cars, cars. As we slowly inched through the metallophagic mob of moving monsters, the dust, noise, heat, poisonous fumes, angry, hard-faced, tired-looking drivers gave the scene a hellish aspect. Would we ever get to our hotel? All three of us were, frankly, frightened. . . . Since that day I've known the feel of carexplosion.

Such a contrast in perspectives and values—overstated here for dramatic impact—provides the background for much of the debate which goes on between the developed nations and the developing nations over the issue of population and pollution. By making use of the image of automobiles, it also ties directly to the issue of population and energy.

Food Shortage

In rather rapid fashion within recent months, a world-wide food crisis has come to public attention. The seriousness of the crisis has been evidenced not merely in the tragic instances of famine in the six sub-Saharan African nations struck by drought and in India and Bangladesh. It has also been felt in the rising price on the international market for the principal food commodities of wheat, rice, feedgrains, and soybeans. There has been a poor rice harvest in Asia, a shortfall in the Soviet wheat crop, and the disappearance for two consecutive years of anchoveta off the coast of Peru. In an effort to bring down rising domestic food prices, the United States in the summer of 1973 announced restrictions on the export of soybeans and related foodstuffs.[18]

Since the days of Malthus, the relationship between rising population and declining food resources has been a prominent theme. More and more mouths to feed because of rapid population growth is, of course, a continual challenge to any nation. But an added challenge is the growing affluence which pressures world food resources. And here a very startling picture of disproportionate consumption patterns appears. This pattern can be well illustrated in the consumption of various grains, which in resource terms occupy more than 70 percent of the world's crop area.

[18] See Lester R. Brown, *Population and Affluence: Growing Pressures on World Food Resources* (Development Paper No. 15; Washington, D.C.: Overseas Development Council, 1973) p. 7.

Grain consumed directly provides 52 percent of humanity's food-energy supply. Lester Brown, an agricultural economist, notes:

> In the poor countries the annual availability of grain per person averages only about 400 pounds per year. Nearly all of this small amount must be consumed directly to meet minimum energy needs. Little can be spared for conversion into animal protein.
>
> In the United States and Canada, per capita grain utilization is currently approaching 1 ton per year. Of this total only about 150 pounds are consumed directly in the form of bread, pastries, and breakfast cereals. The remainder is consumed indirectly in the form of meat, milk, and eggs. The agricultural resources—land, water, fertilizer—required to support an average North American are nearly five times those of the average Indian, Nigerian, or Colombian.[19]

Consumption of livestock is another indication of the consequences of affluence. In the United States, per capita consumption of beef climbed from 55 pounds in 1940 to 85 pounds in 1960, and 117 pounds in 1972. Projections for 1985 are for 140 pounds per capita consumption. From 1940 to 1972, poultry consumption per capita in the United States rose from 18 pounds to 51 pounds per year.[20] Northern European nations, with their rising affluence, are also notably increasing their intake of livestock products.

The Food and Agricultural Organization of the United Nations periodically issues reports which estimate that one third to one half of the world's population suffers from nutritional deprivation: *undernourished* because they do not get enough calories, and/or *malnourished* because their diet is protein-deficient. It is estimated that since the mid-1940's protein in the diets of people in the developed countries has increased 6 percent and decreased by 6 percent in the diets of people in the developing countries.[21] The number of grams per day of total protein supply per capita in the United States, Canada, France, Australia, and New Zealand is approximately 100 grams. For India, Malaysia, the Philippines, and some parts of Africa and Latin America, it is about 50 grams.[22]

Although the so-called "Green Revolution" has offered considerable hope for meeting food shortages in the developing countries in the next few years, it is not without serious difficulties and by no means a remedy by itself. Development of special strains of corn, wheat, and beans has markedly increased the food supplies available in the developing world.

[19] *Ibid.*, p. 8.

[20] *Ibid.*, p. 9.

[21] Cf. Paul and Arthur Simon, *The Politics of World Hunger: Grass Roots Politics and World Poverty* (New York: Harper's Magazine Press, 1973) pp. 27–28.

[22] Cf. *Trends in Developing Countries* (Washington, D.C.: World Bank, 1973).

But several significant factors are now being faced: (1) cultivated land suitable for the high-yielding seeds is quickly becoming scarce; (2) the intensive chemical fertilizers required are raising some ecological problems and their supply is being threatened by the energy crisis; and (3) socioeconomic displacement of small farmers is creating a problem of unemployment and urbanization.

The sea, of course, provides extensive opportunities for harvesting food—provided that it is rationally managed. So far such rational management has been woefully absent, as the disappearances of whales, the depletion of anchovy, the general leveling off of the world fish-catch, and the frequent damage from oil spills, etc., would indicate. The possibility of developing new sources of protein through chemical cultivation (for example, single-cell organisms grown on petroleum wastes) is frequently discussed and actively pursued in some nations. But the generally conservative food habits of people is a serious obstacle. Even the hungriest of persons will hesitate to eat something which culturally and/or experientially they do not recognize as food.

Because of the increasing strain on the world's food supply brought about by rising population and rising affluence, and because some finite limits on food production are beginning to be experienced, the question of distribution becomes more and more critical. The wide contrast in food-consumption levels between the developing nations and the developed nations poses a serious question. As Brown notes,

> ... those living in the poor countries are sustained on 400 pounds or less of grain a year, while those in the wealthier ones require nearly a ton of grain. It is difficult to envisage a situation in which all of mankind could progressively increase per capita claims on the earth's food-producing resources until everyone reached the level now enjoyed by the average North American. Thus thought should be given to how diets could be simplified in the wealthy nations in order to reduce per capita claims on the earth's scarce resources of land and water.[23]

One positive trend which might indicate some simplification of diets in the rich nations is to note that vegetable oils are increasingly being substituted for animal fat (for example, margarine for butter) and vegetable protein for animal protein (for example, soya-based meat substitutes and extenders). It is important to note that these substitutions are economically, ecologically, and nutritionally better. As the global problem of food shortage is addressed more seriously in the immediate future—as it will be at the World Population Conference—the developing countries are likely to be pointing to the issue of consumption on the part of the developed countries and raising the question of diet simplification.

[23] Brown, *op. cit.*, pp. 40–41.

SOME POLICY RESPONSES

The fact of rapid population growth is being addressed in a systematic and detailed fashion during the 1974 United Nations World Population Year and at the World Population Conference to be held in August. A global population policy is aimed for in the projected "World Plan of Action" which is expected to eventuate from the Bucharest Conference. Any social policy, of course, is the outcome of an interplay of empirical pressures, political forces, and articulated values. Social policy on a global level is thus influenced by the pressure of crisis situations, the power of dominant actors in the international system, and the value stances of both the formulators and the objects of the policy. That is why the *perspective* in which an issue is viewed is so central to the policies which are proposed.

We have attempted here to place the issue of global population in a wide perspective which includes (1) the relationship of population growth to economic growth in the developing countries and (2) the impact of consumption patterns in the developed nations, especially in the United States. The policy responses we briefly suggest in conclusion here are influenced by these perspectives.

United States Government Policy

Being the major donor of bilateral foreign assistance for family-planning programs and the chief contributor to the United Nations Fund for Population Activities, as well as being the center of numerous private-research, training, and service organizations, the United States is extremely influential in determining the direction of global population policy.

1) One significant contribution to the formation of global population policy which the United States could make would be for this country officially to adopt a domestic population policy. In calling for the adoption of population policies by other nations, especially by developing nations, the United States is in an embarrassing position. Although there has been considerable pressure from several sectors for the government to adopt a population policy by identifying demographic goals and implementing programs to meet these goals, with particularly strong pressure to aim for a stabilized population size, the United States has not acted. There has not been any official policy regarding the desirability or necessity of reducing United States population growth—although such a reduction in fact has occurred. Similarly, there has been no official policy regarding the desirability of the United States achieving population stability—although that will occur if present fertility trends continue. And official policy relating to other demo-

graphic variables such as migration, urbanization, age structure, etc., has not been formulated. It is possible that the recommendations of the Commission on Population Growth and the American Future may eventually lead to enunciation of goals concerning the desirable size and distribution of domestic population and appropriate methods to achieve such goals.[24] But of particular importance—not only domestically but also as an example internationally—will be a population policy which is integrated into a wider social policy concerned with the issues of comprehensive human development, distributive justice, ecological responsibility, etc.

2) The United States should focus its foreign-assistance efforts toward an "integral development" approach similar to that discussed earlier in this article. Such an approach can be seen in the thrust of the new foreign-assistance program recently passed by the U.S. Congress. Family-planning assistance is linked with maternal and child health programs and nutrition programs for a more comprehensive approach. In addition, over-all assistance by the United States is being directed especially toward lower-income groups, both urban and rural, within the developing countries. This focus on the so-called "lower 40 percent" is a marked departure from the traditional programs, which emphasized large capital-investment projects. Consequent socioeconomic change in the less privileged sectors of society in the developing countries will have demographic impact, as noted in a recent United Nations report:

> Since high birth rates are usually prevalent primarily among the less privileged sectors of population which maintain the traditional modes of production and social organization, development policies, including population policies, should emphasize fostering socioeconomic change in these sectors. Elements of such policies include a balance between agriculture and industry in development planning, sufficient employment opportunities, a more equitable distribution of income, and special concentration on the provision of education and of employment opportunities for women outside the home. Such measures would help to fulfill the basic development objective of social justice and contribute to favorable changes in patterns of demographic behavior.[25]

3) Explicit recognition of the interdependent character of our present and future global system demands that the United States should evaluate all its many international policies—trade, aid, investment, monetary—in the light of their relationship to population phenomena.

[24] *Population and the American Future*, Report of the Commission on Population Growth and the American Future (Washington, D.C.: U.S. Government Printing Office, 1972).

[25] United Nations Population Commission, "Report of the Symposium on Population and Development," Cairo, 1973, p. 35.

This would mean, for example, that one of the inputs into the consideration of a piece of tariff legislation would be its impact on population in the developing countries. Does the offering of preferential trade arrangements in fact assist a country in its chosen course of stimulating labor-intensive industries and thereby provide some remedy for national unemployment, which in turn may assist in the population stabilization desired by that country? Asking and answering that kind of complex question will help prevent an over-all policy which on the one hand provides family-planning assistance and on the other hand undercuts any effective efforts at motivation through improvement of socioeconomic development. The United States must be careful not to be in the position of advocating at the World Population Conference positions which would later be negated by its actions at international meetings on trade or on monetary reform.

4) The current energy crisis may very well turn out to be a strong impetus for meeting the global population problem. That is, it will, we hope, be turning the attention of people in the United States to the wasteful patterns of consumption which go into making up our affluent life-style. Obliged by reason of fuel shortages to begin to curtail our consumption and to experience wants we cannot satisfy, the United States public can learn something about the daily lot of so many millions in the developing world. Such a growing awareness—and the policies consequent upon it—could have important ramifications in the area of population.

United States Church Policy

When it acts—or does not act—in the area of population, the Catholic Church makes its impact felt. Because of its concern for the family and its emphasis on a moral teaching regarding sexual matters, the Church has tended to be a frequent commentator on topics bearing upon population. Its traditional doctrine regarding artificial birth control has had policy impacts in Catholic and non-Catholic countries alike. Although we have not explicitly referred to the Church in what has preceded, the interest of Catholics in promoting a response to the global population issue should be readily evident.

1) The Catholic Church in the United States should take an open and honest look at the issue of population growth around the world. Because the "population movement" has frequently been characterized by positions which have been at variance with Church teaching—for example, regarding abortion—Catholics have tended not to talk about population problems. But such silence today would be totally irresponsible. The facts must be faced squarely and appropriate responses readily

endorsed. The November 1973 statement of the U.S. National Conference of Catholic Bishops on population was an instance of a very positive step in the direction needed at this time.[26] Responses such as this will advance the thinking and actions of individual Catholics on population matters and hence will affect the United States' role in the over-all approach to global population issues.

2) The solutions to population problems are clearly of that particular category which is nontechnical. No "technological fix" will meet the challenge of a global population which will double by the year 2000. The solutions will of necessity be tied intimately to social motivations and to human values if they are to be not only effective but also acceptable. The Church should be particularly responsive to the need to explore the meaning of motivations and to speak for a respect for values. Because population policy is at root a human issue, it is basically an issue for moral reflection, for an approach of *ethics*. Traditionally, when the Church has examined the topic of population, it has treated it at the *micro* level, the level of family life. Here the ethical questions are principally those surrounding contraception, sterilization, abortion. But it is also of great importance to treat population at the *macro* level, the level of social policy. Here the ethical questions will relate to the conflict of rights between individual freedom and social needs, to the role of women in society, and to the relationships between developed countries and the developing countries. There are significant values of social justice which need to be injected into the public debate over population policy, and the Church will make a major contribution by entering that debate at the *macro* level.

3) In entering the public-policy debate, the Church's response should particularly be in terms of its social teaching in the two areas discussed in this article, development and consumption. The kind of message contained in the social encyclicals and Church pronouncements on development are of importance as an *integral* development is espoused as an approach to population stabilization. The focus of *Populorum progressio*, for example, is on the "fulness of authentic development, a development which is for each and all the transition from less human conditions to those which are more human." [27] And in speaking of the issue of consumption of resources, the Church is able to appeal to human solidarity. Nowhere has this been more clearly put than in the 1971 Roman Synod's statement on "Justice in the World":

In societies enjoying a higher level of consumer spending, it must be asked

[26] National Conference of Catholic Bishops, "Statement on Population," November 13, 1973 (*Origins* 3 [Nov. 29, 1973] 353 ff.).

[27] Paul VI, *Populorum progressio*, no. 20.

whether our life style exemplifies that sparingness with regard to consumption which we preach to others as necessary in order that so many millions of hungry people throughout the world may be fed. . . . It is impossible to see what right the richer nations have to keep up their claim to increase their own material demands, if the consequence is either that others remain in misery or that the danger of destroying the very physical foundations of life on earth is precipitated. Those who are already rich are bound to accept a less material way of life, with less waste, in order to avoid the destruction of the heritage which they are obliged by absolute justice to share with all other members of the human race. . . .[28]

The Church in the United States would make a needed policy response to population by bringing to bear these value perspectives on development and consumption whenever global population policy is discussed.

4) Finally, it is necessary for the Church to be *political* in its policy response to population. As a major "nongovernmental organization," the Church can play a monitoring role on the development of the United States' position for the Bucharest Conference. The input of individual Catholics, of Catholic organizations and agencies, and of Catholic leadership is important—particularly as carried on in a *positive* fashion. In exercising this political role, the concluding remarks of the NCCB statement can be an especially helpful guide:

We strongly urge our Catholic people to take a positive approach to the question of population. We encourage research and education efforts in Catholic educational institutions, in order that discussions of population and social development may be carried on in light of a value system rooted in sound ethical and moral principles. To this purpose, intensive discussion of the central themes of the UN Population Year—family, development, environment and human rights—should be carried on with the dignity of the family and social justice as the focal points. Finally, we urge the United States Government to increase foreign assistance programs to the developing nations, especially to those nations where population problems are complicating economic and social development. We must all realize that policy decisions governing the activity of the United States government agencies at home and abroad will be the focus of attention throughout 1974 and beyond. We have rights and responsibilities as citizens and as Christians to contribute to the creation of government policies which respect human dignity and the moral law.[29]

[28] Second General Assembly of the Synod of Bishops, "Justice in the World," November 1971, Part 3.

[29] National Conference of Catholic Bishops, *loc. cit.*