



Child Survival and Global Sustainability: Malthus Revisited

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A debate questioning the compatibility of public health programs that seek to limit population growth with those that seek to minimize mortality rates among children has recently been rekindled in the medical literature. The hypothesis that has been presented is that, in allowing more children to survive to reproductive age, child survival programs contribute to long-term human misery by overburdening the carrying capacity of the planet. The solution that has been proposed is to withhold public health services to children in developing countries. This argument is analyzed and refuted on demographic and ethical grounds. An alternative approach is offered, one that takes into account recent geopolitical events and identifies the social, economic, and ethical obligations of the industrialized nations. [PSRQ

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The Declaration of Alma-Ata, issued jointly by the World Health Organization (WHO) and the United Nations' Children's Emergency Fund (UNICEF) on September 12, 1978, affirmed the basic principles of primary health care, especially as they apply to the poorest nations of the world [1]. Specifically, it defined Primary Health Care as "essential health care made universally accessible to individuals and families in the community by means acceptable to them . . . at a cost that the community

and country can afford." The Declaration also stated that "(t)he existing gross inequality in . . . health status . . . between developed and developing countries . . . is politically, socially, and economically unacceptable . . ." Not surprisingly, the adoption of the Declaration touched off a debate that centered around the question of how to best implement these principles. Experts in the field became proponents of either "comprehensive" or "selective" primary health care, and the merits and pitfalls, real or potential, of each approach to the achievement of the overall objective of "Health for All by the Year 2000" were (and continue to be) frequently and vigorously debated in classrooms, conferences, and journals. A review of the issues involved is beyond the scope of this article—the reader is referred to

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several key publications [2-4]. One school of thought, which has had considerable influence in foreign assistance policy during the past decade, has held that one of the most egregious and tangible inequalities is the difference in childhood mortality rates between industrialized and less industrialized societies. Furthermore, because relatively simple, effective, and cheap technologies are available to lower mortality in this age group in developing nations, both donor agencies and ministries of health in developing countries have promoted "child survival" strategies, such as those implemented in immunization and diarrheal disease control programs, as the cornerstone of their health programs.

For the past year, a second debate, one which has also touched emotional and intellectual chords, has evolved. This debate was begun by Dr. Maurice King, who has been an influential proponent of primary health care and of programs aimed at improving rates of child survival in developing countries [5,6]. King now holds [7] that public health programs, at least those aimed at saving the lives of children in developing countries, are detrimental to the health of the planet and should not be implemented unless they are accompanied by measures that will ensure that the increased population that will result from reduced childhood mortality can be supported by the local ecology. The next five paragraphs summarize his argument.

THE PROBLEM OF CHILD SURVIVAL

King begins by describing the *demographic transition*, a model of the evolution of populations which is derived from data from industrialized countries [8]. This theory describes how pre-industrialized societies are characterized by high birth rates, high mortality rates, and a relatively stable population. The process of industrialization leads to improved social and economic conditions that result in a decrease in mortality rates and rapid population growth. In a third stage, birth rates fall and the population stabilizes again, albeit at a substantially higher level than before.

King warns that this model may not apply to many countries in today's developing world. Instead, he refers to the danger of what has been called the *demographic trap* [9]. This trap is set when societies enter, but cannot escape from, the second stage of the demographic transition. Instead, a rap-

idly growing population resulting from a falling death rate and a continued high birth rate soon exceeds the ability of its local environment to support it. The result is a society that becomes increasingly dependent upon external support, one that is driven to flight by war, starvation, and disease, or one that is forced to accept a substantial reduction in the quality of life for those who survive the inevitable upturn of mortality rates.

King charges that current proponents of "child survival" programs are confident that an initial lowering of child mortality rates is a "necessary and sufficient" condition for the eventual reduction of birth rates, in accordance with the chain of events that make up the demographic transition. He claims, accurately, that this idea is unsupported by the available data. At any rate, he argues, if a reduction in birth rates were to occur, substantial improvements in living conditions, such as those that made the transition possible in industrialized societies, would be required. Instead, the public health programs being promoted today achieve only an artificial lowering of mortality rates as a result of palliative "technological fixes" such as immunizations and improved treatments for common diseases such as diarrhea and pneumonia, while the underlying causes of high rates of illness and death, namely poverty and lack of education, remain inadequately addressed. Furthermore, the fundamental improvements in socioeconomic conditions that would be necessary for countries to escape the demographic trap may not be achievable in today's developing countries. The reasons for this are complex, but they include poor leadership, a lack of arable land, ineffective social development programs, and, especially, the greed and excesses of the 20% of the world's population that consumes more than 50% of the world's resources.

So, according to King, we cannot rely on a future demographic transition to relieve the pressure that a rapidly growing population is presently placing on an increasingly stressed environment. What, then can be done? King is aware of the ethical dilemmas that complicate any proposed solution to the apparent conflict between population control and public health, and he devotes a section of his paper to them. His conclusion is that "sustainability"—"the maintenance of the capacity of the ecosystem to support life in quantity and variety"—in the future, rather than a blind concern for the pressing health

problems of the present, must become the guiding principle for action. In other words, sacrifices may have to be made in the present to ensure the well-being of future societies.

King concludes his argument by describing what these sacrifices might be. He proposes: 1) reduced consumption of natural resources on the part of those living in the industrialized world—smaller cars, recycling, and a better diet are examples that he cites; 2) the accelerated and aggressive promotion of family planning programs in the developing world; 3) the withholding (and, one presumes, although it is not explicitly stated, withdrawal where they exist) of public health programs such as vaccinations against common childhood illnesses, oral rehydration for dehydration secondary to acute diarrhea, and so forth, unless “adequately sustaining complementary measures” are also introduced.

It is this last proposed strategy that has generated the most debate. This paper summarizes the ideas that have been put forward in an attempt to refute King’s thesis and suggests how the international health community might be able to address most, if not all, of the concerns raised by both King and his critics without sacrificing the children of the present to ensure the survival of those of the future.

THE PROBLEM OF POPULATION GROWTH

To start, it might be interesting to explore why King’s article and the accompanying editorial, which enthusiastically supports his point of view [10], have evoked such strong reaction. King’s statement of the problem, his description of its gravity, and his call for an immediate and drastic change in the way public health priorities are currently being addressed by both developing countries and the international aid community appear to be essentially correct. However, there is nothing particularly new about his neo-Malthusian thesis, although he claims to take Malthus one step further by considering factors such as the demographic transition and the real potential for “ecological collapse.” Malthus, according to Hollingsworth [11], was the first to recognize that a population could double in less than 25 years if favorable conditions prevailed. The reason this doubling did not routinely occur in his day is that checks on population growth, which he categorized as either positive or preventive, usually existed. In the former category were “natural” occurrences, such

as epidemic disease and famine, while the latter included mostly “human” occurrences such as social custom and moral restraint. In addition to being a demographer, Malthus was also an economist and recognized that technological advances that resulted in increased production could alter his model. In fact, Hollingsworth feels that the real value of Malthus is derived from his views on the relationship between economics and population growth. He goes on to say that

the reasons for [Malthus’s fame] were not because of any intellectual brilliance in his *Principle of Population*, but rather because he wrote at a moment opportune to a controversy that excited wide interest.

The same could be said of King. The dangers of population growth have been stated compellingly in the literature over and over again. King’s line of reasoning adds little to that of the Club of Rome, which stated a generation ago that “demographic pressure in the world has already attained such a high level, and is moreover so unequally distributed, that this alone must compel mankind to seek a state of equilibrium on our planet” [12]. One response to this problem by the international community has been the promotion and funding of family planning programs, including both research aimed at the development of better contraceptive methods and the expansion of the potential market for these products by improving access of the target population to health care providers and by stimulating increased demand for family planning services. Currently, approximately three billion dollars are being spent annually on family planning programs throughout the world. Although this represents only approximately one-third of what is needed to reach the 300 million couples who do not yet have access to modern contraception [13], and is less than 1% of the money being spent on international development [10], these expenditures are having an impact. Since the mid-1970s, the world population growth rate has been unchanged, at approximately 1.7% per year [14]. In addition, although there remains a large disparity in the rate of population growth between developed and developing countries, fertility rates have declined substantially in both Asia and Latin America during the past decade.

Still, although the problem of too many people has been recognized for some time, and although some partially successful efforts have been made to address it, the undeniable truth remains that these

efforts have been grossly insufficient. As a result of the world's refusal to heed the warnings of the Club of Rome and of many others before and after, the absolute number of people living on the planet threatens to overwhelm the resources available to support it. Improved technology has not proved to be an adequate solution. Even where technological breakthroughs have provided at least temporary relief from population pressure, through increased agricultural yields, for example, they have frequently exacted a price by lowering the quality of life and by adding to other environmentally destructive processes. The sustainability of our environment and of life as we would like to know it not only continues to be threatened, as King suggests, but has not yet become a sufficiently prominent consideration in the minds and actions of those who formulate health care policy, particularly in (and for) developing countries.

What is a little different, and more exciting, about King's argument is that it is published in a medical journal and addressed to people who deal with health-related issues. Its effect has been to challenge those who have been involved in the promotion of health, and specifically of child survival programs in developing countries, to recognize, here and now, that the threats posed by unchecked population growth are imminent and can no longer be ignored or explained away by unsupported claims that decreased mortality is a prerequisite for reduced birth rates. King, to his credit, is trying to beat over the head what has been a traditionally resistant constituency, the medical community, to make it realize that there is a limit to population growth imposed by the size and resource potential of our planet and that this limitation must be not only considered, but accorded highest priority when health programs are developed and implemented. An intellectual acceptance of the existence of the problem is an inadequate response—action, even drastic action, is called for, even if difficult and unpopular decisions are necessary.

FAMILY PLANNING VS. PRIMARY HEALTH CARE

Perhaps King and his supporters should have stopped here, but they chose to go further. The theme that runs through King's *Lancet* article and his subsequent publications on this subject [15,16]

is that "health" programs should be sacrificed for the benefit of "family planning" programs. Many of King's critics have expressed outrage at this proposed solution, even as they agree with the forceful and constructive statement of the problem. Choosing between reducing birth rates and reducing mortality rates should not be necessary. In fact, for several reasons, this choice should be actively avoided, especially in developing countries. Yet King's proposal has generated discomfort in addition to outrage.

The reason for this discomfort merits attention and some explanation. There is ample evidence to suggest that family planning programs and disease prevention and control programs should be, and can be, complementary. However, the medical community, foreign assistance agencies, and national ministries of health have not seen them as such. In practice, there is a very real and intense competition between the health and population sectors. This



FIGURE Newborns at Delivery Unit, Kingansani Hospital, Kinshasa, Zaire, 1986. Photograph courtesy of Richard W. Steketee, M.D., M.P.H.

competition occurs, at times, in the form of intellectual confrontation like the one at hand. Sadly, and more important, there is also field-level competition between the strategies adopted to implement both family planning and disease control programs.

It should be obvious to professionals in both fields that, to create the conditions that will allow people in all societies to live longer lives of improved quality without placing undue stress on the environment, there is a need for both family planning and disease control programs. This has been a major theme of both King's supporters and his critics [17-21]. To increase efficient use of the limited resources currently available, it is important to recognize that, while there are differences, particularly of a technical nature, between health and family planning programs, it is easy to be impressed by points they have in common. In the most general sense, both seek to improve access of the population to high-quality services, and both strive to increase the proportion of the target population that utilizes these services once they are made more widely available [22]. Nevertheless, family planning programs and health programs are usually developed and implemented by "specialists" with backgrounds in one or the other area. Accordingly, management information systems, commodity distribution, training programs, health education activities, and research projects, for example, are planned and implemented separately and with too little regard for what is being accomplished in related, but different, sectors of development. Failure to recognize, in practice, the complementarity of these two service sectors has resulted in unnecessary duplication of effort and, more unfortunately, in unnecessary competition for limited resources. Population control and health promotion have become fierce competitors for the same small slice of the foreign assistance pie.

This notion, that health programs and population programs are distinctly different, has become a deep-seated tenet of the development mentality. Its insidious consequence is perfectly illustrated by the call of the *Lancet* editorial which accompanies King's article for "development money . . . to be reallocated urgently" to family planning programs and, by implication at least, away from disease prevention and control programs such as immunization and oral rehydration. The fact that health care professionals working in developing countries have not become more aggressive supporters of family planning pro-

grams, despite the many warnings they have received regarding the dangers of continued high fertility rates, is, indeed, ample reason for their discomfort. Still, for prominent and respected physicians to call for a cutback in health care services to an already underprivileged population is equally embarrassing. The competition between health and population programs should be, can be, and must be eliminated. Absolutely no reallocation of funds should occur; instead, the problems in both areas are, for some of the reasons that King states, so urgent that massive new allocations are necessary.

THE CASE AGAINST KING'S SOLUTION

King's proposed solution, that efforts to reduce child mortality in developing countries should be stopped unless efforts to control population growth are simultaneously and successfully implemented, is wrong on several counts. From the demographic point of view, King's argument should be turned on him. He points out that a reduction of childhood mortality is not a "necessary and sufficient" condition for a subsequent decline in birth rates. In fact, one might suggest that it is both unnecessary and insufficient for this purpose. Unfortunately, if family planning efforts are not aggressively implemented, ecological disaster may very well occur whether or not child survival programs are successful. Current prospects are, indeed, alarming. Although, as pointed out above, the annual population growth rate of our planet has been fairly stable at 1.7%, certain areas of the world, particularly those that are least capable of supporting large populations, that is, the developing countries, are growing at a far more rapid rate. For example, from 1985 to 1990, approximately 88 million people were added to an already overburdened planet each year, and 93% of this growth occurred in the less developed countries [23]. Furthermore, the problem is compounded by the fact that today's high birth rates have grave implications for the future; the babies born today will be parents in the early part of the next century. Even the staunchest of optimists must feel that reducing birth rates, especially in developing countries, is of the greatest urgency.

For birth rates to be reduced, there is no question that successful family planning programs are necessary, and, depending on their degree of success, they may even be sufficient. To ensure success,

stronger population control policies and better family planning programs are the only long-term solution. In Asia, the successes of countries such as South Korea, Taiwan, Singapore, and Hong Kong testify to the hypothesis that impressive socioeconomic progress, of the sort that King claims will be impossible to achieve, can be made where national developmental priorities include a rapid decrease of the birth rate [24]. Family planning programs have also been successful in reducing birth rates in China and Thailand among others in Asia, in Brazil, Colombia, and Mexico in the Americas, and in Zimbabwe and Kenya in Africa. The success, failure, or even absence of child survival programs may be totally irrelevant to these successes. In fact, 80% to 85% of children in developing countries already survive to the age of five years (and much longer), if one accepts an average under-five mortality rate of 150–200 per 1,000 live births per year in the least developed countries [25]. Therefore, current child survival programs are aimed at reducing mortality among only 15% to 20% of children. If 50% of these deaths were to be averted, child survival rates would increase by less than 10% and the contribution to population growth rates would be rather modest [26]. So, in arguing the case for "sustainability," one could be more convincing by pleading for stronger, more aggressive, better financed, and technically improved voluntary family planning programs that are capable of meeting the needs of a substantially larger target population than is currently the case, without forcing those who currently bear the brunt of excessively high child mortality rates to forgo available, and remarkably successful, assistance programs for disease prevention and control.

From an ethical point of view, one might wonder why King singles out the child survival programs. Part of his rationale for doing so is that "they increase the man-years of human misery, ultimately from starvation" [9]. But, although child mortality rates may be high, relatively speaking, mortality among the elderly is even higher. Why, then, do we devote resources toward saving the lives of older individuals who no longer make any contribution to the economic viability of the community—does not prolonging the lives of the elderly also potentially increase the man-years of human misery when societies are ecologically stressed? What about the disabled? What about other programs that prolong life and result in an increase of individuals of repro-

ductive age and of economic potential? Wouldn't allowing the transmission of the human immunodeficiency virus and of tuberculosis to proceed unchecked also reduce the potential for ecological disaster in the near future? These are typical examples of the "positive checks" to which Malthus refers, along with war and famine; yet King singles out for elimination those programs that aim at increasing the survival of children. Of course, children do have the highest reproductive potential and their increased survival adds not only more living persons to the population, but also more parents-to-be. Nevertheless, advocating lower fertility rates while denying care to ill children seems as unacceptable, in our society, as promoting childhood immunization but withholding treatment to children with measles. Again, other solutions must be explored.

Finally, one is struck by the weight of the burden that King seeks to place on the poor and the sick, compared with the burden he suggests placing on the group that may be most responsible for the current, dismal state of affairs—the 20% of the population that consumes 50% of the world's resources. King's argument is most indefensible when he makes it clear that in his view only those with limited access to sophisticated health care should be denied the benefit of technically appropriate interventions, for although "... oral rehydration should not be introduced on a public health scale ... the individual doctor must rehydrate his patient." Furthermore, whereas poor mothers should forgo immunizations, oral rehydration therapy, malaria treatment, appropriate treatment for pneumonia, and other public health interventions that may improve the chances that their children will survive, those individuals who benefit from the services available in the industrialized world are exhorted to drive "slower cars" and to wear "warmer clothes." As discussed above, the problem of excessively high birth rates is, in fact, unequally distributed; the developing world is responsible for an increasing proportion of total population growth. It remains ethically unacceptable, however, to propose that the unequal distribution of the problem be surpassed by the inequity explicit in the proposed solution.

AN ALTERNATIVE APPROACH

Fortunately, ethically acceptable, even ethically imperative, alternatives are available. The problem

has been clear for some time, and, thanks to King's forceful argument and the debate it has generated, it is perhaps more clear now than ever in the medical community. The solution is also clear—families, especially those in developing countries, must have fewer babies. To some extent, the solution lies in the hands of those who work in developing countries. The development and implementation of successful strategies for improving access to and utilization of better family planning programs are the joint responsibility of ministries of health, international organizations, and bilateral foreign assistance agencies. Effective coordination among these entities and among the programs that they sponsor has been lacking. Using meager financial and technological resources more efficiently is imperative.

But no matter how well the technicians cooperate and how well programs can be merged to have maximum impact for minimal expenditures, it must be accepted that today's problem will not be solved tomorrow; the earth's population will continue to grow well into the next century, even though the annual rate of growth may slowly decline. It is precisely because there can be no "quick fix" to the problem that another audience, in addition to the medical community, must be urgently reached. The responsibility for creating conditions conducive to the development and implementation of strategies aimed at reducing excessive population pressure on the planet lies with those who formulate political, social, and economic policy. It is our political leaders who must come to grips with the fact that resources must be reallocated from areas that are assuming lesser priority to those that threaten our very existence. It is an undeniable fact that the magnitude of the problem is so great and the urgency of finding effective solutions so pressing that the amount of money being spent on technologically improved and ethically acceptable family planning programs needs to be substantially increased.

Geopolitical events of the past few years have provided an opportunity to make great strides toward improving the living conditions that will contribute to a higher quality of sustainable health for all of the world's population. It is crucial that this opportunity not be squandered. The responsibility for financing solutions to unchecked population growth can rightfully be assigned to the rich, even though the problem lies with the poor. The wealthier nations have consumed a far greater share of the

earth's resources than is justifiable, have engaged in exploitative economic policies, and have supported war and civil strife through the sale and distribution of weapons. These nations have been, to a large extent, responsible for keeping much of the world "undeveloped." International debt should be seen as a two-way street.

The "peace dividend" is not an illusion [27]. Military expenditures have already decreased in many industrialized nations, and one hopes that this trend will continue. If it does, not only will more money be available, but a reordering of spending priorities will become possible. Political leaders should heed King's warnings now, just as they should have paid more attention to similar arguments many years ago. It is distressing that our elected officials continue to take an ostrich-like approach to the population problem. When recently questioned about reducing the defense budget to allocate additional funds to areas of social concern, President Bush called it "way too early to get into that" [28]. If, as Maurice King argues, the only solution to the current dilemma is to withhold basic medical care from babies in developing countries, it is already way too late. But both Bush and King are wrong. The way to ensure an acceptable quality of life in a sustainable ecosystem is to begin, immediately, to divert the necessary resources from activities intended to shore up the short-term security of Western industrialized nations to those, such as family planning and "child survival" programs, intended to guarantee the long-term security of our planet. ■

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