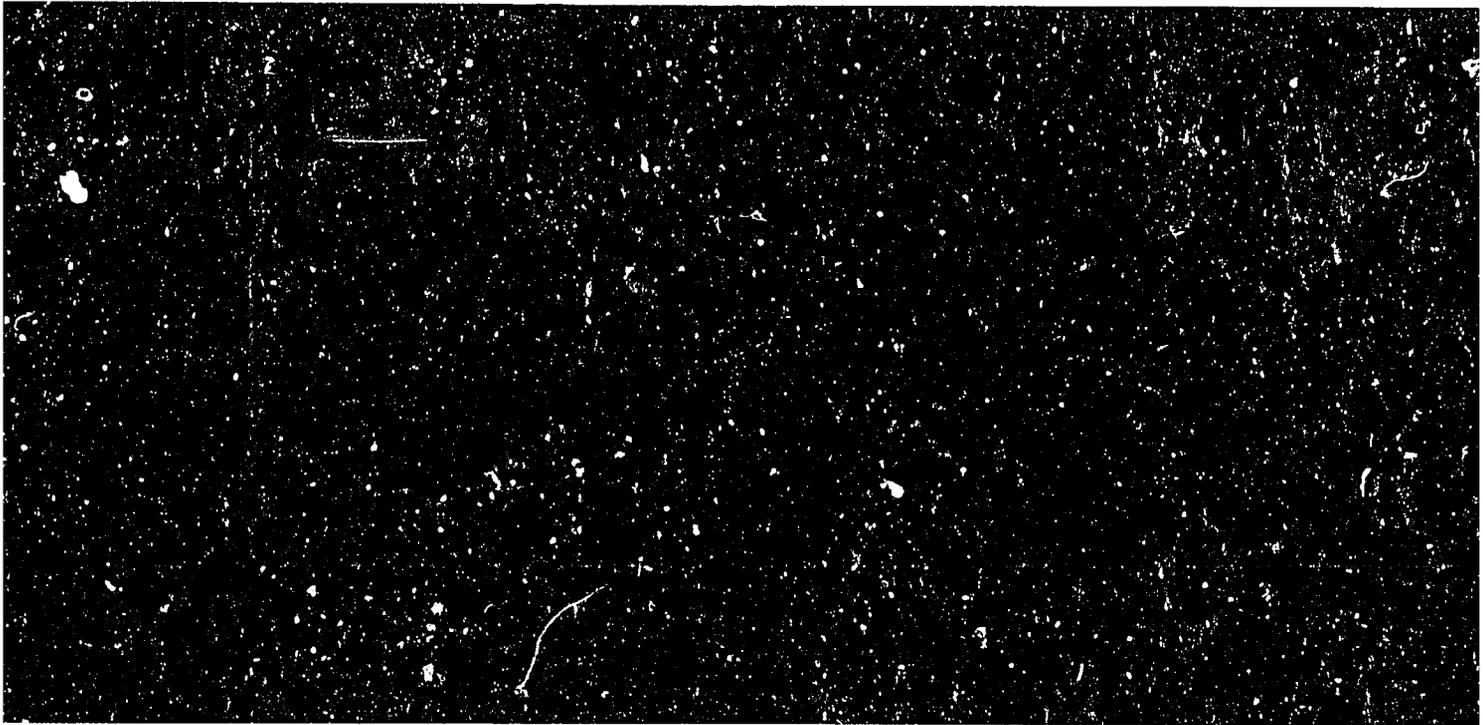


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A Seminar On:
**DEMOGRAPHIC CHANGE
AND ECONOMIC GROWTH**



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Agency for International Development
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MEMORANDUM

March 27, 1991

TO: Distribution

FROM: PPC/PDPR/SP, Thomas Morris

SUBJECT: Seminar on "Demographic Change and Economic Growth"

The enclosed document is the product of the recent PDPR seminar on "Demographic Change & Economic Growth," held on January 11, 1991. As you recall, the seminar was led by Professors Allen C. Kelley of Duke University and T. Paul Schultz of Yale.

The following are some of the main themes and conclusions to be drawn from the seminar. Also included are some pertinent upcoming issues. For a more comprehensive articulation and explanation of any of the points made by Professors Kelley and/or Schultz, please see their respective publications cited on the last page. (Available from PPC/PDPR/SP)

Themes

1. There have been three rather distinct phases in the interpretation of the relationship between demographic change and economic growth:
 - **Strong Negative Impact Phase.** The 1960s and 1970s saw a decisive emphasis on the negative supply-side impacts of population. Such thinking revived the Malthusian notion of diminishing returns resulting from scarce farmland, and further applied this framework to a host of renewable and non-renewable resources. Plus, these analyses generally contended that population growth resulted in lower ratios of capital to labor, decreased savings, and greater expenditures on "unproductive" investments such as health and education.

- **The Challenge: A Positive Impact.** The early 1980s saw the pendulum swing the other way, toward a less pessimistic interpretation of population growth: Empirical evidence was starting to refute some previously held theories; and Simon published The Ultimate Resource, a book which advanced the controversial conclusion that population growth in the long-run could actually enhance the pace of economic growth in the Third World.
- **Revisionist Interpretation.** Currently there is a growing "Revisionist Interpretation" of population's impact on economic development. This line of reasoning, as articulated by the 1986 NAS Study, contends that the negative impact of population growth in the Third World varies according to country. This interpretation has the following tenets:
 - The negative impacts which rapid population growth can have in selected developing countries are not as strong as once envisaged, particularly when viewed over a longer time period.
 - Population growth is often not the direct cause of problems. Bad economic policies are frequently to blame.
 - Rapid population growth can, however, exacerbate existing social and economic problems.
 - Some of the old anti-natalist arguments have proven unsound.
 - Feedbacks are increasingly important to the analyses.

2. According to Kelley, "Providing a quantitative, net economic impact answer to the population-counterfactual question -- What has been the net impact of rapid population growth on the pace and structure of economic development in the Third World over recent decades, and how concretely has demographic change interacted with the economy to provide such an outcome? -- is a remote possibility "

Conclusions

The following are some of the notable conclusions drawn from the seminar, as well as from the publications of Professors Kelley and Schultz.

1. Revisionism, as defined by Kelley, seeks to put population growth into a broader perspective.

2. Feedbacks are a key part of this broadened perspective, particularly market feedbacks. As a resource becomes more scarce due to a swelling population, its price tends to rise. This tends to induce substitution and/or increased supply, thereby mitigating population effects.
3. Reducing population growth alone will not solve severe economic problems. It can, however, buy time and flexibility, and may release some resources. It will not solve fundamental economic problems, nor induce solutions.
4. General statements with respect to the impact of population growth on economic development (growth) are deceptive.
5. Strong, voluntary family planning programs are justified less on economic development grounds than on family welfare grounds.
6. Nonetheless, as Schultz points out, "A lesson learned over the last two decades by family planning managers in different countries is that the success of family planning depends heavily on the underlying changes in the economic and social environment which motivate couples to "demand" fewer births."
7. On an inter-sectoral basis, greater attention should be given to integrating the evaluations of various social programs: lowering the cost of education not only can increase enrollment, but also lower fertility and infant mortality.
8. A.I.D. should have evaluation enterprises independent of a particular sector.
9. All such evaluations should try to avoid using intermediate outcomes, such as contraceptive prevalence, in place of final outcome variables such as fertility.

Upcoming Issues

The following are seen to be some of current and upcoming issues which can be drawn from the work of Kelley and Schultz.

1. Kelley recommends the following regarding possible future directions for modeling of economic-demographic relationships:
 - Downplay the "net impact" goal;
 - Focus on sectoral population impacts;
 - Highlight inter-sectoral tradeoffs for policy: family planning - health - education; and
 - Highlight heterogeneity: rural - urban issues.

2. Schultz recommends, where feasible, analyzing the final objective of family planning programs -- namely fertility. To facilitate such evaluation, the resources expended in the family planning program should be recorded at the community level, valuing each input at its opportunity value elsewhere in the national economy.
3. According to Schultz, the mix of program activities should incorporate some randomness so as to facilitate evaluation of different program components on fertility. For example, the same total expenditures per capita could be allocated to each region or community, but the decision where and when to build and staff family planning facilities would be independent of other potentially confounding community characteristics.

Bibliographic Sources

1. Kelley, Allen C., "Economic Consequences of Population Change in the Third World," Journal of Economic Literature, Vol. XXVI, December 1988, pp. 1686-1728.
2. Schultz, T. Paul, "Population Programs: Measuring Their Impact on Fertility and the Personal Distribution of Their Effects," Journal of Policy Modeling, Vol. 10, No. 1, 1988, pp. 113-139. (Reprinted in Yale University, Economic Growth Center Paper No. 408)

A Seminar on:

DEMOGRAPHIC CHANGE AND ECONOMIC GROWTH

Washington, D.C.

January 11, 1991

An abridged transcript of the four-hour discussion.

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SEMINAR HIGHLIGHTS

Morning Session

- Introductory Remarks: John Blackton
Deputy Assistant Administrator for the Bureau for Program and
Policy Coordination and Executive Assistant to the AID
Administrator
- Presenter: Professor Allen C. Kelley
Duke University
- Moderator: Thomas Morris
Office of Policy Development and Program Review
Bureau for Program and Policy Coordination

"I have been struck over a fairly long career in development by the tendency for development theory and development practice to have something of the relationship of science and religion to each other... You feel quite embarrassed about how long it takes us as practitioners to recognize the disconnects between what empirically we're bumping into in the field and the theories that are driving us. I think the population area has been an interesting example of that science and religion disconnect. In AID we haven't kept a smooth and open relationship between our practice in this area and all those things that have been going on in academia and in the research institutes that have explored and widened our understanding of interactions between demographic factors on the one hand and economic factors on the other." --
Blackton.

"To summarize the literature in perspective: There is a period of an assessment of population where it has a very, very strong negative impact, almost to alarmist proportions. This was mainly the latter part of the fifties, all of the sixties, and seventies. Then in the early 1980s some writers asserted that population growth may even have a positive impact on the Third

World. Since then there has been a swing back to the position that maybe alarmism isn't justified in all Third World countries, although in some countries such as Bangladesh it is a very serious situation." -- **Kelley**.

"I am arguing that there has been a revisionist interpretation of population's impact on development. A combination of the following four points represents, in my judgement, a shift in the thinking on population: 1) That the negative impact, while still there, is not as strong as it has been believed. Although it may, in fact, be very strong in some places, the negative impact is not as strong as it was envisioned in most of the models of the previous period; 2) That population served in many instances to amplify problems rather than to be the main underlying causes of problems; 3) Some of the anti-natalist arguments are empirically or analytically unsound; and 4) Feedbacks are important to the analysis." -- **Kelley**.

SEMINAR HIGHLIGHTS

Afternoon Session

Presenter: Professor T. Paul Schultz
Yale University

Moderator: Thomas Morris

Closing Comments: John Blackton

"I don't think that there is clear major progress in research that is going to change the priorities of AID and how it uses its resources. The firm answers just simply are not going to be forthcoming. You can't tease out of the historical data series the broad complex, multifaceted relationships we've learned to recognize that underlie the interplay between population growth and the economic growth of the whole society." -- **Schultz.**

"The goal should be to integrate evaluation of various social programs. Education, health and family planning are very clearly important interactive programs to feed into these family tradeoffs. If we lower the cost of education in most communities we pick up in the cross-section those communities as not only educating their children somewhat more, but also having lower fertility. Those communities that seem to get lower child mortality out of better health services are also ones reducing fertility. The opposite holds, as you could expect from a cross-compensated price effect. If we can lower the cost of family planning and induce people to adopt family planning earlier, have smaller families, more wanted children and fewer unwanted, you have the opposite responses. More schooling occurs and the children come out getting better health. If there are these cross-effects, we are looking far too narrowly to evaluate an intervention in any one of these fields unless we look at the synergisms across fields." -- **Schultz.**

"You may find populations in early stages of demographic transition where the benefits from your program interventions really accrue mostly to the upper middle class. And I don't think we want to change our goal so much as we want to recognize that for the lower class, family planning is not the avenue to serve them. Health and education may be. So, again, opening the door to competition within AID, the tradeoffs across the social sectors, in different societies and sectors of these societies should make sense and may very well improve the efficiency of the whole budget agreement." -- **Schultz.**

"AID really ought to look in countries where it's operating and perhaps not do interventions in three social sectors but make a judgment that in country A, it's probably quite appropriate to be working on education and maybe wait 10 years before going into the other sectors. I mean, that's very different from the way we operate now, where the assumption is we belong in all the sectors." -- **Seminar Participant.**

"Today we have very usefully reexamined some of the issues that have been on people's minds for a while, but on which we haven't formally concentrated. I think it really is appropriate that we address the issues in the first month of the last decade of the millennial. We are setting the stage for AID to begin to move a little bit more into the intellectual mainstream of these areas.

"Earlier we shaped practice more than any other player. In those days we shaped the intellectual dimensions of this issue as well; we haven't in the last decade. I would like to begin to see that change." -- **Blackton.**

Introduction to the Seminar

JOHN BLACKTON (Deputy Assistant Administrator for the Bureau for Program and Policy Coordination and Executive Assistant to the AID Administrator): I have been struck over a fairly long career in development by the tendency for development theory and development practice to have something of the relationship of science and religion to each other. On the development theory side, the research institutes tend to move along in small steps defined by the rate at which new evidence confirms and disconfirms things. There is an endless practice of debate and change going on. Among development practitioners, changes are far more infrequent; it is a very stochastic process. The changes are very big and very lumpy and tend to be somewhat equivalent to the conversion from Christianity to Islam. It takes a lot to move the practitioners from one point to another. And that's why we tend to have clunked along in decade-like chunks of belief on the practitioner's side. If you go back and look at the sorts of documents we wrote inside AID in the sixties about development, you will see the kind of uncritical acceptance of basic Keynesian economics wildly misapplied to societies that had almost none of the characteristics of the places that Lord Keynes was thinking about.

You feel quite embarrassed about how long it takes us as practitioners to recognize the disconnects between what empirically we're bumping into in the field and the theories that are driving us. I think the population area has been an interesting example of that science and religion disconnect. There was a period in the 1950's and early sixties in which the economic literature pointed out the very interesting relationships between demographic change and economic growth. This literature made it clear for at least some countries at that time the fact that very high fertility and very high population growth clearly were significant impediments to growth. We internalized that lesson tremendously well in AID and became probably the best agency in the world in responding to it. We developed mechanisms for dealing with the question

of high fertility and high population growth rates that ultimately shaped the practice around the world. I think it's not immodest to see us over the last 30 years, as the premier family planning agency. Most of the empirical tools that are used by other donors and other countries today were shaped and influenced by AID. In AID we haven't kept a smooth and open relationship between our practice in this area and all those things that have been going on in academia and in the research institutes that have explored and widened our understanding of interactions between demographic factors on the one hand and economic factors on the other.

As in every other aspect of AID's work, we have to acknowledge that those kinds of interactions are definitionally complex. They always reflect the structural and temporal differences that exist in the countries in which we operate. Clearly, the work that has gone on in both the disciplines of demography and of economics has reflected this complexity. I think our own practice has to some degree resisted the complex portrait that's been emerging in the demographic and economic literature.

I would like to look at this seminar in the first month of 1991, which the orthodox counters of decades say makes it the first month of the new decade, as something of a milestone for us in terms of trying to make the nineties a period in which we improve the sophistication of the way we relate demographic issues and economic issues in our overall approaches to countries.

I am quite persuaded that there are a number of countries around the world where AID has it pretty much right. For example, in Bangladesh, where we've done very good demographic analysis and the quality of our economic analysis has also been quite high. There we have formulated a general approach to the development in Bangladesh that I think quite plausibly links the two and in ways that are quite defensible. In some countries, we have very little powerful intellectual linkage between our economic analysis on the one hand and our demographic interventions in the other.

The most interesting thing about the seminar we put together today is the opportunity it affords to open the discourse to look at the ways in which these two seem to be related, and to do so with the counsel of two very experienced academics who have been involved in these questions for a long time and who, I think, bring the virtues of being on the science as opposed to the religion side of the debate. Tom Morris, an economist in the Office of Policy Development and Program Review, will moderate the discussion.

MORRIS: On the subject of demographic change and economic growth, we have two of the best known experts in the field. They are Professors Allen C. Kelley and T. Paul Schultz.

Dr. Kelley is the James B. Duke Professor of Economics at Duke University. He specializes in Economic Demography relative to International Trade. He is the Associate Director of Duke's Center for Demographic Studies. With John Blackton's invitation to this seminar, you received a copy of Dr. Kelley's recent article in the *Journal of Economic Literature*, "Economic Consequences of Population Change in the Third World."

Dr. Schultz has held the Malcolm K. Brachman Professorship at Yale University since 1977 and been a Professor of Economics at Yale since 1974. He has also served as Director of Yale's Economic Growth Center since 1983. A purpose of the Center is to analyze both theoretically and empirically the process of economic growth and the economic relations between developing countries and the economically advanced countries. He currently serves as a member of the National Academy of Sciences' Committee on Population.

KELLEY: I'm basically going to be talking about the impacts of population on development. This has been my brief. What do we know? I'm going to cover a lot of the historical material very rapidly, mainly in a critical vein. What do we need to know about the net impact of

population on development? What do we need to know about sectoral and partial impact on specific sectors on the economy versus the overall impact? What do we need to know about trade-offs and interactions? If there's a big trend in the evolution of population discourse over time, it has been increased emphasis on interactions and trade-offs, and especially feedbacks.

Revisionists are people that happen to be less anti-natal, in part, because of feedbacks and interactions. And that is a theme and a perspective I want to try to promote. And, finally, I emphasize the word heterogeneity. We have a tendency in much of our discourse to treat nation states as single observations, aggregate them, and make statements from either case studies or cross-sections applicable to all countries and even parts within a country. We tend to treat countries as a whole with respect to our policies and programs and not allow for notable differences within countries. I think we can go astray. And I think much of the debate on population has been too general and not sufficiently specific. My underlying goal is to try and broaden perspectives because each of us has got a specific portfolio. In this room are people involved with issues of programming, day-to-day operations, establishing policies, and trying to make sure money is spent properly. I would like to look at what you're doing in the context of a little bit wider picture and maybe refocus some of the assessments of population.

We should beware of preconceptions that we have about this whole issue. The problem with the whole population area is it's been confrontational all along in terms of the evolution of knowledge. This in many contexts is really highly useful because it triggers the need to research. The problem with confrontation is you have to put yourself on one side or the other and you tend to get a vested interest in that side. My own experience in this area is a little bit illustrative. I was an assistant professor at the University of Wisconsin a couple of decades ago when I got a call from Washington. They said they had this commission on Population Growth in the American Future. And they asked me to write one of the four lead papers on the economic side

of this. My brief was to look at the history of the United States in the previous 100 years to find the consequences of population growth on development. I was to use this experience to generalize what's going to happen over the next 100 years.

I went into this exercise, as did everyone who was involved in this, with a very strong anti-natal position -- that's the reason the Commission was established. The problem was that soon after the Commission was founded, we found out that the United States population was producing at a below-replacement rate. The reason I make this point is that in the fifties, sixties and seventies, not only was there great concern about population, but it was almost alarmist, even in areas like the United States where, at least in terms of rapid population growth, high-fertility rates and so forth, it didn't seem to be a big problem. So it was kind of an education for me to be involved in this kind of transformation of thinking away from what I might call an alarmist view to more of an eclectic view.

What do we know then? I think our division of what we know divides itself into about three phases. If I were to summarize the literature in perspective, there is a period of an assessment of population where it has a very, very strong negative impact, almost to alarmist proportions. I'm mainly now referring now to the Third World rather than countries like the United States. This was mainly the latter part of the fifties, all of the sixties, and seventies. Then in the early 1980's some writers asserted that population growth may even have a positive impact on the Third World. Since then there has been a swing back to the position that maybe alarmism isn't justified in all Third World countries, although in some countries such as Bangladesh it is a very serious situation. In others, it may not be as serious.

The general position of much of the research literature right now is that there is a negative impact, on average. There's great variance around this alarmism for many, if not most countries, that's not justified. And the nature of this I call a Revisionist Position, which is not a

pro-natal position. It's a **less anti-natal** position than was characteristic of the situation given by my little scenario with respect to even the United States in the fifties, sixties and seventies.

Take a look at the research and see what constituted the basis of the somewhat alarmist assessment of population. As I assess it, I'm going to stress one thing throughout, and that's the perspective. Less the empirical results and less the modeling, but the perspective that is embodied in it because what has changed is the change in perspective rather than a change in a lot of the details. I want to highlight that over and over. Whether or not you accept that change in perspective is another issue, but I think we need to recognize what it is.

The first major study is one by Coale and Hoover. It describes for India the consequences of rapid, long-term economic growth in the context of demographic change. What was quite important is that it was the first formal modeling effort. It was very simple and it articulated population linkages in a very clear way that people could understand. Two important linkages it highlighted were these: If economic development is largely related to the amount of capital available for a worker and you have population growth, then you worry about capital labor ratios, and unless capital grows or is reduced by rapid population growth, you're going to have a decline in average productivity of worker and living standards. Second, it went a little bit further and said that not only would capital not keep up, but its growth would probably be deterred by rapid population growth because children, when they come into a household, make demands on household's resources and they have to be fed. And a lot of this, if not all of it in this model, is financed out of savings. And since the household sector is a big sector in economy, savings are deterred by increased family size, which is associated, of course, with the national outcome or deterrent fact of rapid population growth.

The third major linkage in this model is that we will have a diversion of resources because of a bulge in the age distribution of the population toward unproductive investments countrywide

and, in particular, towards things such as social spending and education to maintain an "unproductive sector" of the population, the children. This will divert resources away from productive investments, mainly on physical capital. Remember, physical capital was the main determinant of economic growth during this entire period. It didn't have much feedback in the sense that if something became scarce, there wasn't a natural rationing device in it to encourage economizing and a more efficient use of it. So, if capital becomes scarce as labor grows, you would expect some responses to occur in the economy. Moreover, there were very few substitutions in the model. Substitution is the essence of all these. Economics is the science of making choices. If you don't have substitutions, you have nothing to talk about.

The underlying framework of the household in this model was based on a concept called the adult equivalency concept. And that is, when a new baby comes into the household, that baby consumes .7 of the household's adults consumption. That's got to be financed somehow. It's got to be financed out of savings or borrowing or something like that. I am mentioning these details because they happen to be the heart and foundation of most of AID's models at the present time, so this is more than just a historical exercise. I want to give you the intellectual foundation, which, incidentally, was totally respectable and completely consistent with the economic theoretical frameworks at that time.

This was a time when there was much emphasis on capital as a main determinant of economic growth; resources in the form of natural resources was not a big issue. Now, what is the assessment of this model? I think it's brilliant. I think the model has to be analyzed in the context of time in which it was written. And it's brilliant because it captured the key ideas of the time. It gave very pessimistic predictions. First of all, it had an enormously important impact on AID. This is well-documented. Secondly, the intellectual foundation of this is still at the heart of the RAPID models, although today they are increasingly sectoral.

I want to highlight the timing issue. They only had run the model, I think, for 15 or 20 years. And if they only run it for 15 or 20 years, when the populations are being born and are totally unproductive, you're going to get one picture. If you run it for another 20 or 30 years, unless you make the assumption that labor is totally unproductive, you're going to get a different result, a modified result. So, if you take their basic model and extend it out, you get quite a different picture than was represented by their short-run simulation. It is short-run in the fact that it did not highlight interactions and feedbacks which take longer to play themselves out. This is not a criticism. It was entirely appropriate, intellectually, at the time.

The next major study I would like to highlight is the National Academy of Sciences (NAS) Model in 1971. It was very different from the NAS Model just a few years later. I think it's useful to ask the question: Why does this distinguished group of scholars sponsored by the NAS, come up with apparently such different results? I would argue that in some basic ways, they didn't. There are 16 reasons, articulated in this study, as to why population was a detriment to development. It slows down per capita income growth. It perpetuates income inequalities. It holds down savings. It holds down investment. It diverts production towards food. It causes unemployment and under-employment. It deters technological change because of cheap labor. It creates mass poverty. It diminishes markets. It slows mineral extraction. It deteriorates the resource base. It distorts international trade. It causes rapid urbanization. It causes rapid internal migration. It worsens all conflicts--population, ethnic, religious, linguistic. It inhibits rising enrollment rates. It inhibits improving the quality of education. It retards children's physical and mental development. It increases erosion, water deterioration, destruction of wildlife and natural areas.

If you just consider the spectrum of this, then there's nothing good about population. In fact, it inhibits everything. And the answer again lies in perspective. This is not wrong; it's the

perspective that drives this. If you hold all resources constant, if you hold everything constant and increase a demand upon those resources in the short run, you're going to have a negative impact. Virtually every one of these chapters that addressed this had that perspective. This particular report's orientation was very different from the way the second (1985) NAS report was put together in that it was a series of more or less unconnected chapters, in which 15 or 20 people were given the mandate of writing on a topic. There was not a central theme, nor was there an organizer who wrote a report, like Sam Preston and others did with respect to the later NAS report.

Limited growth we all know about and I don't need to say too much about it. The interesting thing about limited growth is, as distinct from the Coale & Hoover Model which stressed savings/investment as the main theme in terms of population, the NAS Model, which was eclectic, as I indicated, kind of covered all bases. The Meadows and Forrester Model which looked at natural resources, renewable and non-renewable, came to the conclusion that, within a hundred years or so, the economic and biosystems of the world would almost literally collapse, and that there was very little we could do about it.

The contribution of the model was its stress on environment and natural resources, which triggered a lot of research. The other models that you're all very familiar with are the Enke Model and the Futures Group Model, that have been sponsored by AID. They are in the Coale and Hoover tradition for the most part. Capital is the major determinant of economic growth in these models. There's limited feedback and substitution tradeoffs, so, again, they are somewhat short-run impact models rather than long-run impact models. The measured contribution of those models is one of presentation and exposition, which has been brilliant. It has caused population awareness. And, let's face it, that was the main objective I think of these models -- to put population policy concerns on at least an equal footing with a lot of other issues that governments

are debating and concerned about. So, having computer displays, population interactions and so forth, an excellent presentation in terms of exposition has been a way of showing at least some of the connections between population and development.

So this was a period of strong anti-natal sentiment with respect to population in terms of the literature; I would say certainly within the policymaking groups. It was based on this quite broad-ranging literature, some of it sponsored by AID and some of it quite independent of the AID. So it seemed to be confirming and persuasive.

There was a major dissenter in the name of Simon Kuznets. He said that we do not have tested or even approximate empirical coefficients with which to weigh the various positive and negative aspects of population growth. While we may be able to distinguish the advantages and disadvantages, we rarely know the character of the function that relates them to different magnitudes of population growth. There were 10 or 15 other scholars that were actively involved during this period doing much of what you say, John (Blackton), little increments or decrements to knowledge along the line. They were nibbling away at the frontier, occasionally pulling it back.

In 1981 Julian Simon wrote a book titled *The Ultimate Resource*, a challenge to the strong negative impact of population. Simon thought population growth may have a positive impact. That was quite stunning and certainly a position that attracted quite a bit of attention and interest. Basically he had a couple of main points. He challenged the assumptions of a lot of the other models, resource exhaustion, in particular. He discusses in his book the possibilities that, as resources become scarce, prices will go up and that the power of this mechanism will cause more resources to be reduced, cause substitutions, cause economizing. And he emphasized that second order feedbacks can be important. He also emphasized that there are some positive impacts to population growth that didn't appear in the NAS reports and some of the other reports. He basically tried to shift the turf away from savings and investment being the theme to technical

change being the theme. Now, the interesting thing is that this happens to be consistent with a new set of ideas in development theory.

During the 1950s and sixties and the early seventies, capital was all important. Then, all of a sudden, with Denison's work and Jorgenson and Griliches and sources of growth, technical change started coming to the forefront, and even such things as not viewing education as a drag on development but as a potential contribution, a form of human capital and improvement of skills. In fact, Paul Schultz's father had quite a bit to do with highlighting this and was appropriately recognized for it.

What then is it that Julian Simon contributed? He tried to shift the perspective on the analysis of population from the very short run to the longer run. Secondly, he highlighted feedbacks as qualifying the initial impacts of populations. And, finally, he highlighted substitutions.

Let me tell you why I think Simon's work had a major impact. First of all, the book was well-written, and that's rare for economists. The second reason that it was so influential was the major attacks on it by people in the population community that were threatened. If these people had not led these major attacks, line by line, the book would have been reviewed, and it would have gone into the academic domain, with less impact than it had. Thirdly, he was quite willing to stand up and debate as a means of advancing knowledge. The main impact of his work was to force and encourage a relooking at the accumulation of evidence that had occurred over the previous 10 or 15 or 20 years to see what we know about this situation. It's not an accident that in 1984 and 1985 and 1986 we have a flurry of studies that basically, systematically, reviewed a lot of literature that had been there all that time, but not brought together.

I am arguing that there has been a revisionist interpretation of population's impact on development. A combination of the following four points represents, in my judgement, a shift in

the thinking on population: 1) That the negative impact, while still there, is not as strong as it has been believed. Although it may, in fact, be very strong in some places, the negative impact is not as strong as it was envisioned in most of the models of the previous period; 2) That population served in many instances to amplify problems rather than to be the main underlying cause of problems; 3) Some of the anti-natalist arguments are empirically or analytically unsound; and 4) Feedbacks are important to the analysis.

The interesting idea, the idea that everyone seems to think is the main factor -- that is, population doesn't have a negative impact -- is not the new idea. Most, in fact virtually every one of these studies comes down in terms of a bottom line that, on average, in many, if not most cases, a slower rate of population growth would be better and easier to accommodate than a rapid rate. That hasn't changed at all. It's just that the alarmism has been attenuated by recognizing feedback, shifting the ground in terms of the impact, noting that population is an actor but not necessarily the lead actor in many problems, such as scarcity of employment and environmental degradation. And, basically, it puts the role of population in a somewhat broader perspective. That, I think, is what "revisionism" is.

Is the revisionist interpretation ideology or science? What explains the change in the position of the 1971 NAS report and the 1985 NAS report? Some people say it's mainly ideology, and that this occurred during the period of the Reagan Administration as a result of a change in political philosophy. I think that maybe its appearance was facilitated by that, but I do not believe that it is the main cause. I think that there's some scientific underpinnings that are much more important that were occurring all the time.

The main idea that drives all of the conclusions, that are strongly modified from the previous report in the subsequent ones, is that feedbacks are important and they're pervasive. That is the main theoretical idea. That when something becomes relatively more scarce there are

feedbacks in the system. These feedbacks are in many forms. There are social feedbacks, there are political feedbacks, there are market feedbacks. The market ones are the easiest to talk about. The resource becomes scarce, the price goes up and all kinds of things happen. But if prices don't change and you run out of a resource, the government will go in and do it. An example of this is when a common resource such as clean air or clean water becomes scarce, it's well-recognized that the best action is government regulation in many instances. Secondly, some of the previous hypotheses have been questioned. I think probably the ones that should be highlighted are those that relate to savings, investment, government spending and education.

In terms of savings and investment, there occurred from the 1970s to the 1980s a fairly large number of studies that looked at the impact of different family sizes on family savings rates and looked at the impact of dependency rates. That is, the impact of the proportion of the population that's young, let's say, on economy-wide savings rates, controlling for all sorts of things. And the general result of these is that there does not seem to be any negative impact in most instances. The government spending notion is that as the youthful cohort expands, this will be the major factor driving government spending toward social-related expenditures like education.

The second NAS report argues that we should have a little bit more balanced perspective, that population exacerbates problems. Population is not usually the main cause. A major conclusion of the report is that reduced population growth is a good thing. It buys time and it buys flexibility. But reduced population growth, it argues, will not solve many of the fundamental problems associated with population, nor induce solutions to these problems.

Many of the constraints on development in these countries relate to bad economic policies that result in starvation, unemployment, and so forth. Reducing population growth alone will not solve those problems. What is the bottom line of the National Academy report? I didn't participate in the deliberations and I don't know anything about it, but I will bet it took them

hours and days, and maybe months, to negotiate this one sentence: "On balance, we reached the qualitative conclusion that slower population growth would be beneficial to the economic development of most developing countries." What I would like to suggest, however, by underlining these words is not their emphasis but to highlight the change in perspective of this report from that of the previous reports and how it encapsulates much of the literature that occurred in the intervening years.

"On balance" means that there are some positive impacts as well as negative impacts. Some countries' population may be beneficial. In many countries, it may not be particularly important, on average. And in some countries, it's going to have a strong negative impact. It stresses heterogeneity. It stresses the long-run. It stresses the nature of our knowledge. And that is it's more qualitative than quantitative. The report is more or less silent on family planning because it is looking at the consequences of population growth. But, many of the people in the family planning community consider the report detrimental to their efforts because it seemed to place less urgency on population as a problem.

I personally believe that the strength of the report is its perspective building. It has broadened the perspective and it has emphasized feedback. And if any of you are involved in influencing how modeling is going to be developed or even pitched in the future, this is the future -- it is, in fact, the present -- and if your modeling efforts don't incorporate these ideas, you're living more in the seventies and sixties than the nineties.

General statements with respect to the impact of population on development, I think, are deceptive given a great variability of countries and experience within countries. This results from my reading of the National Academy and other reports. But, more importantly, from my experience out in the field. I've spent some time in Egypt, for example, and with a couple of colleagues wrote a book on population and development in Egypt. We came up with results that

showed that in part of Egypt, an increase in female education could, in fact, increase the family size. Whereas, in another part of Egypt, it had a strong deterring effect on family size. The only point I want to make is that even within a country the heterogeneity is great. The differences could be regional, ethnic, or semantic. If that can be true of a country, certainly it is going to be true across countries.

QUESTION: I'm a little puzzled by this question of sub-national differences in the impact of population, worrying about regions or sectors. How should we be thinking about this question of population growth being good in one part of the country and bad in another part? I mean, what kind of intervention should we be doing to cause this to happen?

KELLY: Let us say that under a mandate to implement population policy our goal is to enable families to meet their actual family size design efficiently and effectively. In that context the heterogeneity issue is most interesting because we need to look at regions across the country where the demand is quite different.

I'm saying you've got to look at the issue strategically. I don't think this should be viewed that everyone out there is waiting for a family planning clinic. I think it should be viewed that a lot of people really are and a lot of people aren't for reasons of their own self interest. We can understand why and maybe work on things like health. It is very difficult to switch when you have population budgets, education budgets, health budgets, and so forth, and these don't interact.

QUESTION: One chunk of fairly recent research is the work that's been done in the last couple of years looking at those economies that have, for one reason or another, had very, very low population growth rates, low fertility rates. That suggests that some of those economies may be facing a problem which AID never anticipated, which is a problem of the youth deficit. Some Eastern European economies, and some East Asian economies like Korea and Taiwan, that were AID countries not too long ago, may be running into manpower crunches because of the very

slow rates of population growth. Those crunches are heightened by the fact that the 20-year old cohorts bring technical skills to the work force that the 40 and 60-year old ones don't, and so one of the consequences of too successful fertility management can be real disruptions in the interaction between technology, manpower size and an economic change. Is this an area attracting attention in the economic community?

KELLEY: I don't think so. I think, in terms of the Third World, it's not. This is my reading of the literature. To respond to research priorities on this issue vis-a-vis the rapid population growth issues, I would say it is the lower priority, for the following reason. Most of the countries that have engaged in, or are engaging in rapid decline of population growth and, as a result, would be candidates for this type of research, are economies that are relatively if not absolutely quite prosperous, where the economy is more integrated, more responsive.

At least in terms of scientific literature, there is a tendency to overstatement, to focus on population as a cause. Timothy King has written that in his analysis, the population case has been overstated and that has been unproductive. I think that the goal of the population community during much of this period of time was to expand population awareness and put it on stage. That goal I think has been not only met, but met in spades. Now that it's on stage and there's essentially an excess demand for your product out there, the goal should be to continue to build a demand in less alarmist types of techniques and to use your existing resources to accomplish your goals most effectively.

COMMENT: I'd like to raise the question of the problems that sometimes are engendered by the overstatement in the RAPID presentations. I've twice watched the presentation made to the Head of State in high population growth countries. The presentations seem to be incredibly successful because it is a very elegant technology. In both those countries, because I was the guy in the country who stayed there, I watched the confidential memos between

Ministers mocking the models, and ultimately in both cases, the consequence for the Head of State was that he concluded: "Nobody knows what they're talking about. I won't take any advice on this subject at all because, clearly, it's just one of those areas of chaotic debate." To that extent, I think AID really does jeopardize its general position as a purveyor of useful economic advice when it takes simplistic models rooted in 1950s thinking, and runs them out. No matter how much fun they are, they cost you in the end because they undermine your credibility.

QUESTION: Two questions. One I'd just like to put on the table because I think we'll get to it this afternoon. I hope we will get to the kinds of research process that seem most fruitful and raise the potential for getting at some of these questions. It sounds to me like longitudinal studies, fairly demanding data, as well as microeconomic research. I'm sure we will get to that this afternoon. I think I've sort of answered the other myself but at first blush, it looks like one of the conclusions of the revisionist work is that rapid population growth does not have an adverse impact, apparently, on education. And on the other hand, you recommended that one look at family planning in terms of its impact on education from the family's point of view. This would suggest that there is, in fact, a relationship. I guess, in the first case, one is looking at the level of national governmental expenditures and really at quantity of education; whereas in the second case, one is looking at it perhaps from the point of view of family investment of the education.

KELLEY: Yes. The family question relates to the idea that families are bearing the cost for education. The general literature on the issue has spoken of the social cost of education vis-a-vis the social investments or private investments total. So, to the extent that education is provided socially no matter how many children you have, you've got under-pricing of resource by some people and over-pricing by others and you've got a distribution issue.

QUESTION: Several people have stated that there's not enough research on the linkages between demographic packages and population policies and other sectoral policies. I think that's overstating it. There's been a lot of such research analysis, all through the Rand studies and many, many others. Much of it synthesized by the Bank. Could you restate what your position is on that? What is your view on the adequacy of that research?

KELLEY: I know that there's been a lot. Some of the RAPID models are looking at inter-sectoral tradeoffs. I guess my position is that you go out into the field and try and answer specific questions like: What is the rate of return to a family planning effort of one type versus another, in coordination with what the government is doing with respect to its education and health programs, which is different by regions?

At most, you can make a qualitative judgment. But, the quantitative evidence gives you the kind of parameters where your rate of return is going to be highest with respect, for example, to the impact of decline in infant mortality rates and the demand for payment. How long is the lag? How rapid is the response? And so forth. So that you can get some sort of feeling for how your demand curve is shifting out for the health sector. Or, education. Very little is known about this. We need that elasticity very badly. We need eight or ten elasticities. That would force an articulation of a research agenda that would be, I think, quite useful. The AID people need this information. They want it. Unfortunately academics don't like to do this type of work. Academic currency is the capacity to generate results that are potentially generalizable. You've got to be willing to pay a high enough cost so that the research is in-depth enough not only to get your number, but to get quality people to do it. Maybe you get those six or eight or ten helpful survey studies of emerging data. Creative data, too. There's a lot more data out there than we think. The problem is it's not getting used.

The thing that will appeal to the academic is the methodology of doing this and showing that this is the first time these surveys have been done that way. And it's going to be expensive.

The following insert reproduces the 21 overheads used by Dr. Kelley in his presentation.

Impact of Population on Economic Growth?

- What Do We Know?
- What Do We Need to Know?

Overall Net Impact on Development
Sectoral, Partial Impacts
Tradeoffs; Interactions
Heterogeneity

GOALS:

Place Research in Perspective
Assess the Research
Suggest Research Strategies for Future

Broaden Perspectives on Assessment
Refocus Assessments

BEWARE:

Preconceptions
Confrontations

What Do We Know?

Three Phases

Strong Negative Impact	1958-1981
The Challenge: A Positive Impact	1981-1984
Mild/Moderate Negative Impact	1984-1985

Major Studies

Phase I - Strong Negative Impact

Year	Study	Source of Impact
1953	Coale & Hoover	Saving/Investment
1971	National Academy	16 Wide-ranging Barriers
1972	Meadows et al.	Resources/Environment
1974	Enke et al.	Saving/Investment
1980	Futures Group	Resources/Saving
1980	Global 2000	Resources/Saving

Dissenter: Simon Kuznets in 1960

subject
no.

Modeling Efforts to Date

- **Models**

 - Specifications

 - Capital/Saving; Some Land
 - Few Technical Change
 - Few Resource Efficiency

 - Population/Development Linkages

 - Scale Neutral
 - Population Growth Exogenous

 - Tradeoff/Substitutions

 - Limited

 - Market Signals

 - Limited or Non-Existent
 - Responses to Scarcity: Limited, or Non-Existent

- **Validation**

 - Almost Non-Existent

- **Counterfactuals**

 - Abundant

- **Sensitivity Analysis**

 - Reasonable on Weak Structure and Empirics

...we have not tested, or even approximate, empirical coefficients, with which to weigh the various positive and negative aspects of population growth. While we may be able to distinguish the advantages and disadvantages, we rarely know the character of the function that relates them to different magnitudes of population growth.

Simon Kuznets, 1960

Major Studies

Phase II - The Challenge: A Positive Impact

1981	Julian Simon <u>The Ultimate Resource</u>	Constraints not Binding or Important
1984	Simon/Kahn, eds. <u>The Resourceful Earth</u>	Feedbacks More Than Dominate

Major Studies

Phase III - Mild/Moderate Negative Impact

Year	Study	Source of Impact
1984	World Bank	Renewable Resources/Human Capital
1984	McNicoll	Social Factors
1985	King	Food
1985	Kelley	Food/Renewable Resources
1986	National Academy	Renewable Resources/Human Capital

Present Situation

There has been a strong revisionist interpretation of population's impact on economic development.

THE REVISIONIST POSITION

- Negative Impact Not All That Strong
- Population Often Not Direct Cause of Problems
- Population "Exacerbates" Problems
- Some Antinatalist Arguments Unsound
- Feedbacks Important to Analysis

What is the basis of current assessment?

Is it robust?

What explains the revisionist interpretation?
Ideology....or Science?

Current Assessment (NAS Report 1986)

Good News

- Exhaustible Resources
- Pollution
- Saving/Investment
- Human Capital (Public Investments)
- City Growth & Urbanization
- Urban Unemployment; Service Quality

Bad News

- Renewable Resource Degredation
- Human Capital (Family Investments)
- Bottom Line

Net Assessment (National Academy)

- Alarmism is not justified.
- Total complacency is not justified.
- Population mainly "exacerbates" problems.
- Population is not the main (or often major) cause.

Why Revisionist Interpretation: Ideology or Science?

- Theory: Feedbacks Important & Pervasive
- Facts: Previous Hypotheses Questioned
 - ...Saving/Investment
 - ...Government Spending
 - ...Education

- Most Previous Models Questionable
 - ...Results Built into Structure
 - ...Lack Empirical Backing
 - ...Poor Predictors

What Should be Population's Assessment in Development?
(According to National Academy Report)

Balanced Perspective Required

Population Exacerbates Problems

Population Usually Not Main Cause

Two Examples

The Food Problem

The Unemployment Problem

Food Problem

- Problem Balance between supply and demand
- Cause Low agricultural productivity (supply)
 High demands (population & income)

- Remedy Supply
 - ...Localize research and development
 - ...Eliminate price distortions
 - ...Improve rural credit

- Demand
 - ...Slow population growth
 - ...Slow income growth

- Role of Population
 - ...One factor
 - ...Reveals imbalance sooner & more
 dramatically

Unemployment Problem

- Problem Balance between supply & demand for labor

- Cause Demand
 Slow demand for labor
 Supply
 Rapid growth in labor supply (population)

- Remedy Expand Demand
 ...Encourage labor-intensive production
 ...Remove capital-intensive bias
 ...Adjust exchange rates
 ...Orient production toward comparative
 advantage
 Diminish demand
 ...Slow population growth

- Role of Population
 ...One factor
 ...Reveals imbalance sooner & more
 dramatically

NAS Report Major Conclusions

Reduced population growth

- ...buys time

- ...buys flexibility

- ...may release some resources

But

- ...will not solve fundamental problems

- ...will not induce solution to problems

Rapid population growth "exacerbates" but does not fundamentally cause most development problems.

THE BOTTOM LINE

According to National Academy of Sciences
(1986):

On Balance, we reach the qualitative
conclusion that slower population
growth would be beneficial to the
economic development of most
developing countries.

(Emphasis mine.)

What about Family Planning?

Strong, voluntary programs justified

...less on economic-development grounds

...more on family-welfare grounds

-- child health and education

-- maternal health

Moreover, large numbers of families have more children than they desire.

subject
no.

Assessment of "Revisionist Position"

- Perspective
 - Broadened; Feedbacks
 - Growth Versus Optimal Size
 - Economic Emphasis
- Evidence
 - Cross-Country; Generalizations; Examples
 - Key Relationships: Technology; Policy; Scale
- Realignment of Research Agenda
 - Savings/Investment/Social Spending
to Environment/Resources
 - Population/Development Policy Interactions
- Bottom Line

- **Bottom Line**

- "Net Impact" Goal Allusive
- "General" Statements Deceptive Given Variability
- Directions for Modeling

Downplay "Net Impact" Goal
Focus on Sectoral Population Impacts
Highlight Inter-Sectoral Tradeoffs for Policy
Family Planning/Health/Education
Highlight Heterogeneity: Rural/Urban

AFTERNOON SESSION

MORRIS: I'll turn this afternoon's session over to Dr. Schultz, who is going to talk about sectoral politics and their evaluations.

SCHULTZ: Thank you for this opportunity. Allen [Kelley] and I are subdividing the world today, as you perhaps noticed. He's tackling this hard but humorous history of our scholarly community and I'm going to be delving into the perhaps more mundane territories of sectoral analysis and population.

A little personal history to start. Two decades ago, with my Ph.D. in hand and entering the population field for the first time, I had a number of conversations with the Director of the emergent Office of Population. I urged him to invest in basic empirical research on population growth and economic development. By the next year I was producing knowledge to help us to understand what it was that linked family planning interventions around the world and the economic welfare for people and actual economic growth performance.

I was preaching to the unconverted in that case. And one might say the inconvertible disciples as we've heard it cast in this morning's discussion of the family planning cause. I doubt that Ray Ravenholt would have changed his position very much over the last two decades, but I have to remark that I have. I don't think that there is clear major progress in research that is going to change the priorities of AID and how it uses its resources. The firm answers just simply are not going to be forthcoming. You can't tease out of the historical data series the broad complex, multifaceted relationships we've learned to recognize that underlie the interplay between population growth and the economic growth of the whole society.

Rather than leave the implication that you shouldn't be improving your performance in the population field, I do think that there are opportunities. Allen has alluded to this already, in

the use of systematic and scientific studies of existing and readily produced data to improve the effectiveness of family planning programs, but equally, health and education programs.

We could develop a firmer knowledge of the phasing -- and, again, Allen alluded to this as well -- the sequencing over time of the various social services. I'll return to this more specifically because I think it's quite clear from the record in many countries now, that there is a time when the cost-effectiveness of certain programs is high and of others is not high. In Africa, for example, perhaps health female education has higher returns than family planning.

Let me touch on several issues in somewhat greater detail. The idea is to extract general principles that could be used in the quantitative assessment of social policy interventions, and particularly family planning population efforts. The first point I'd like to make is that the goal should be to integrate evaluation of various social programs. Education, health and family planning are not just cosmic fields speeding into family welfare, but are very clearly important interactive programs to feed into these family tradeoffs. I can cite you five studies that have identified strong cross-program effects.

If we lower the cost of education in most communities we pick up in the cross-section those communities as not only educating their children somewhat more, but also having lower fertility. Those communities that seem to get lower child mortality out of better health services are also ones reducing fertility. The opposite holds, as you could expect from a cross-compensated price effect. If we can lower the cost of family planning and induce people to adopt family planning earlier, have smaller families, more wanted children and less unwanted, you have the opposite responses. More schooling occurs and the children come out getting better health. If there are these cross-effects, we are looking far too narrowly to evaluate an intervention in any one of these fields unless we look at the synergisms across fields. This has come out of so many studies now, I think that it's likely to be one of those few generalities in this territory.

AID should have evaluation enterprises independent of a particular sector. It's very fine to specialize in education and specialize in family planning or in health and child survival, but the evaluation should be pitched at a higher level. It would be far more convincing to the outside world if your evaluation groups are not answering to the offices that are running those programs. And it's not surprising. You don't see many administrators in any organization enthusiastic about evaluation. Is that hard to understand? I don't think so.

In Taiwan, I noticed one of the first things in this very early successful family planning program was to constitute a separate institute for evaluation, independent--not totally, of course. The money was going from Ford Foundation through the Ministry of Health down to this enterprise, but, almost independent of the agencies that were running the program. The evaluations were very responsive to program needs in terms of information to guide administrative decision. But, they kept their hand on the evaluation and didn't let the ministry dictate the terms of those studies.

The second point I'd like to emphasize is that most of the analysis I'll be arguing for can be carried out today, given the multiplicity of high-quality, cross-sectional household surveys, if they are combined with regional data on program activities. You can even use the Census and get away with it, if you have it matched against the program activities.

The next point as you begin to move toward a particular evaluation task is to be certain that the outcome variable is not an intermediate. The one weakness of the Titron experiment back in Taiwan 25 years ago, the last highest-type quality controlled social experiment to look for policy effects that I can find in the literature, was done evaluating the prevalence of contraception, not fertility. That practice has been replicated a hundred times over in the family planning literature. We take an intermediate behavior, contraceptive behavior, and use that as our final indicator of success when birth rates are what we're trying to show some effect on.

There's no reason that we can't wait a year and see the effect on birth rates. In the long run, we have to do our analysis on the fertility level because contraceptive behavior is very elusive. You can get all the people in Zimbabwe to be practicing and the birth rate may not budge. Don't go out and try to set up a uniform family planning program with the same staff and mixture all through societies. Choose, therefore, model mixes, some perhaps using mid-wives in outreach activities, some using usual clinics and doctors, another using just information-intensive educational efforts. Very quickly you'll learn something on the way in which birth rates move, with surveys bringing in the information.

As you begin to view social services as a subsidized activity that you're trying to promote to achieve some outcome, and this means lowering the birth rate, it's very easy to formulate the questions. What are we trying to do? We're trying to find the margin. You're going to be looking for an elastic demand. You're pushing these services, not trying to maximize profits. If you can segment your market and identify which classes, which areas of the country have the biggest payoff in terms of your subsidy impacting on birth rates, you've got the strategy.

So you may find populations in early stages of demographic transition where the benefits from your program interventions really accrue mostly to the upper middle class. And I don't think we want to change our goal so much as we want to recognize that for the lower class, family planning is not the avenue to serve them. Health and education may be. So, again, opening the door to competition within AID, the tradeoffs across the social sectors, in different societies and sectors of these societies should make sense and may very well improve the efficiency of the whole budget agreement.

In Latin America and Asia, the levels of fertility are lower, but the gaps are highly concentrated between what people are wanting and what they're getting in the lowest education levels. So that's the substitution of education for family planning. When you provide family

planning in these two parts of the world, you're largely targeting yourself to the lowest education groups that have gone through the demographic transition and demands, but they haven't been able to get the controlling mechanisms yet. The family planning has a gap to fill. The gap is just beginning to emerge in Africa.

There is the issue of privatization. And aside from being a buzzword in certain circles in the last few years in Washington, I think it is a very attractive concept for AID to try out in all areas of social service, particularly in those where they have a hard time using an innovative, efficient public sector program. There may be parts of the world where it's simply much more costly to work through a public sector to try to deliver minimal health care than developing a nonprofit system outside of the government apparatus. And there are probably many places, like Thailand, where it's healthy to have competition between elements in the government and the private sector to bring out the best of both institutional environments; competition between delivery systems, I think, is certainly optimal. But, it's not an area that has received much systematic analysis. And I think you could very well move toward more experimentation and privatization where the consequences of monitoring the output of these endeavors is relatively straightforward. I'm worried about education. I'm worried about certain areas where privatization will probably produce a high-quality service that then will end up being channeled mostly through the upper classes at a fee and to males as opposed to females.

Another point: the public sector in striving to build up institutions and delivery systems also builds clientele in grant-seeking groups. What happens is, once we set up these markets, they have a way of going on and on. And there's no sunset provision to remove support and let the government decide whether or not this is really a priority use for their money. The most obvious case I came across is in the area of teachers. They become the most vociferous, grant-

seeking public sector employee lobby group in many low-income countries. And we serve this lobby group by sending our own specialists in the same sector in to deal with them.

In conclusion, let me go back over what I think are the crucial dimensions of evaluation. One is to look for the convexities or the synergisms, the non-constant returns to scale that we all know exist out there. They may not be the discontinuities that the biologists tell us lurk in the foreseeable future in the environment, but there are reasons to look for what the marginal payoff does as the program expands. And we should expect it to fall after the program has reached a reasonable efficiency size. And this should be studied in each country. It will vary from country to country. We should try to build in sunset provisions, particularly when AID budgets are getting tighter and tighter, so that we can extract ourselves from social service delivery systems after the market has established itself. In Bangkok, we could pretty well turn family planning over to the private market, and I think the birth rate would rise a percent or two, if that. Whereas, I would not want to undertake that in Northeast Thailand, because I think the birth rate would rise 5 or 6 percent. Reallocating our increasingly scarce funds to those particular segments of the market, and using these sunset provisions, might give us a chance to exercise influence on how our resources are allocated.

The AID population program has made a much larger commitment than any other part of AID to the generation of data. The World Fertility Survey and the Demographic & Health Survey are monuments to the internationalization of household surveys, just the element of the data base that I am emphasizing that you need to have in order to do better social service evaluation. There is an unfortunate tendency of these survey operations to ignore economics. Even in the last demographic health survey, we have no wage data, we have no income data. Needless to say, wages are not too difficult to collect. They may not be accurately reported, as in any survey. Income is much harder, particularly self-employed income. But, wages should at a

minimum have been a main part of the collection instruments in these surveys. These micromanagement tools of evaluation are really not very far toward the frontier of the economics profession at this time. Why they don't get transferred to the problems of AID more often is hard to understand. It's not a criticism that AID is lagging far behind the literature. Family planning in the United States has fewer good studies than family planning in the Third World, and most of those are paid for by AID monies. But, the other side of it is that without better evaluation, you're going to continue to have your own budgetary discretion eroded. Some people like that. Some people feel less favorably inclined toward earmarking. But, earmarking is a sign that Congress doesn't trust your evidence of program effectiveness, your indications of priorities are not clearly demarcated or integrated in a way that they confidently reflect Congress' preferences. Until that meeting of good analytical methods with a few wise Congressmen who can understand them, Congress will continue to take away your authority, I suspect, in flexibly allocating your funds.

BLACKTON: I think you've touched on one theme that is very, very important to the new head of AID. When he canvassed opinion about AID, and how AID is seen by its constituents in the university world from which he came, on the Hill, and elsewhere, one of the fairly frequently reiterated themes that Dr. Roskens encountered -- in fact, very frequently -- was that AID hasn't subjected itself to the kind of external evaluation that validates or contradicts what it's been doing. He learned that most people don't doubt that a good deal of what we're doing is probably moderately on target, but there's a strong sense abroad in all of the constituencies interested in AID that we haven't been linking our analysis of what we do with what results are. And he has really moved that to the very top of his personal agenda. One of the things that's going to happen on his watch, as the head of AID, is that we're going to have the capacity to do rigorous external evaluation of our programs, and will live with negative

findings as well as positive ones. We'll try to be in a position to make two or three different kinds of comparisons with convincing evidence, comparisons of effectiveness between and among sectors. In other words, are we getting more for the dollar in health? Are we getting more for the dollar in education, or irrigation? Or, in combinations of them, as you're suggesting.

First, we need to collect the evidence in ways that allow us to answer to those questions, which we're not doing now. It just hasn't been part of our agenda to create fields that allow us to make those comparisons. Secondly, we need to be able to make sensible statements about what we're doing better in a particular sector in one part of the world or in one country than in another over time. An example might be that we consistently do agriculture much better in Latin America than we do in Africa, or vice-versa, and with demonstrable consequences. So this really is something which is going to be an area in which a major amount of new money, internal and external talent and AID manpower will go, and where the process of increasing external evaluation is better than 50 percent, at a time when the agency is shrinking.

The kinds of questions you raised this afternoon are more than marginally germane to what we're thinking about. They really go to the heart of the agenda we're setting for ourselves. I just wanted to put that out on the table lest people feel that this is all kind of tilting at windmills. We really are prepared to answer these questions.

COMMENT: Well, you've certainly thrown down a gauntlet with respect to interactions. I think the very earmarks, however, that you spoke about tend to drive us in the direction of evaluating earmark by earmark and sector by sector and not watching interactions. But the reason for trying to climb above that and look across sectors is quite compelling.

QUESTION: Certainly, the point that you put on the table about sequencing and the suggestion that AID really ought to look in countries where it's operating and perhaps not do interventions in three social sectors but make a judgement that in country A, it's probably quite

appropriate to be working on education and maybe wait 10 years before going into the other sectors. I mean, that's very different from the way we operate now, where the assumption is we belong in all the sectors.

SCHULTZ: Well, take the Thailand case. If, indeed, that curve had shown that differences across those regions had no effect whatsoever on the birth rate, I think it would raise a very strong question whether or not you weren't out of phase in that country.

COMMENT: I want to make an observation on the lack of economic variables and using that as sort of a jumping off point on the philosophy of evaluation, I use the very current term, the "paradigm evaluation." If this room was filled with public health experts rather than economic experts; if you were Alan Rosenfield and Henry Mosley rather than who you are, you'd be looking at impact evaluation in terms other than what you're looking at now. That goes to explain a lot about how AID has, at least in the area of population, looked at its programs. And I think that it's important to look at the changing rationales that have been used as support for getting resources. In AID, it's been somewhat schizophrenic, whether it's a health rationale, whether it's a human rights rationale, whether it's an economic rationale. All of these have kind of got thrown together in trying to defend the program or to promote it. We're entering into a cycle of economic rationale but it will, surely, fall on disfavor...for whatever reason.

COMMENT: In the health area we have some wonderful examples of careful, innovative interventions beginning to show their metal in tests. An example is the recent one on Bangladesh measles vaccine. The mortality of the children went way down in the randomly selected communities. There are quite a few negative results in the health area, but it's wonderful to have a few positive, carefully run evaluation efforts. That's what we need desperately in many areas.

QUESTION: Evaluation is threatening, whether it's individual evaluation or organizational evaluation. One alternative way of doing it would be to bring out a business team

nd say I'm not going to evaluate you. What I'm going to do is ask the question, given your objectives, how would we go about doing it as a business enterprise? I'm saying that there are various ways of getting evaluation done operationally without being quite as threatening.

SCHULTZ: I have quite a bit of confidence in bureaucratic organizations circumventing threats.

QUESTION: We are planning a series of evaluations of population programs. So, if I go to you as a bureaucrat, what practical advice you would give to me?

SCHULTZ: Choose a couple of the countries in dimension that you think are important. Maybe Thailand is one example of a country where you want to be pulling out of because they've accomplished the objective. Then choose a country in the early stages -- perhaps in Africa, and then one in the middle where you've got to be looking for your segmented markets to support.

QUESTION: I'm not a population expert, but I have been amazed that people around me, intelligent Europeans and African professionals would agree that Africa was really under-populated. Much of what you were talking about was an American perspective of population. I'm just wondering to what extent is the thinking in the U.S. the same as the European thinking, because it seems to me that there is some major conflict in ideas that's taking place over in Africa.

SCHULTZ: I suspect the French perspective is very different. You are right. I don't have any sense of the extent to which that variation has had an impact on various countries.

QUESTION: What we've just begun to attempt to do is change the way we design agricultural areas by moving away from the ability of a country to produce products to a demand structure that's asking for different things as the income situation changes. We want people to be able to look 10 miles down the road and say, "Well, we're going to be getting into a demand structure for livestock, so let's start thinking about how we structure our programs." I know

nothing about data from the health services. Is the data there that missions could tap into in terms of designing programs or making decisions?

SCHULTZ: These surveys all measure child mortality. That's about our only big indicator of health outcome. And then a few others -- child illnesses. We have fertility, we have education at home. But, those are the main things. And we'd love to have something that would encompass morbidity.

COMMENT: I don't know when you were stationed in Africa [referring to a previous question], but there have been hurricanes of change that have been blowing in Africa among policymakers in terms of official attitudes toward population. What's interesting is that it's sometimes difficult to determine exactly why a country has adopted a particular population policy to slow its rate of growth. Sometimes, I and some other people in this room have asked policy makers, "Why did you change from basically a pro-natalist to an anti-natalist position, in historical time, almost overnight?" These changes have taken place basically in a period of about six or seven years. It is now unusual to find a person living in a Sub-Saharan country that is not living under a government policy to reduce rates of growth. Usually, it's not the economic rationale. And, usually, it's not the health rationale. Usually, it is that there are too many people. Very frequently, the same is true in Congress. It's very, very difficult sometimes to know why some of our strongest supporters for population on the Hill actually support these efforts. One of the dilemmas is where should you put your money in terms of countries? There are obvious places where you can get a much higher return on your investment than you could in other countries.

If you were to apply a return of investment, though, wouldn't the logical extension of that be that we should be putting more money for a marginal return in a country, say, like Zimbabwe, versus Côte d'Ivoire? Yet, most people think that, no, we should be making strong investments in

countries like Côte D'Ivoire, even though there will probably be no appreciable return on that investment for a number of years that you can actually document.

QUESTION: I want to throw one thing out on the floor in the actions for AID. The morning discussion emphasized pretty strongly the emerging consensus within the disciplines of demography and economics, and the fact that fertility outcomes are not principal determinants of outcomes, and that fertility changes aren't the principal solutions to problems. To the degree that we decide to join the electoral mainstream on this issue, it seems to me one of the places we might reflect that is in AID's basic country strategies. Most of them deal with the justification of family planning programs in the kind of macroeconomic heart of the paper. They tend to deal with child survival, education and other social sector issues in, if you will, the family welfare part of the paper. It seems to be one of the strong implications of the whole day's work that, in most cases, we would probably do a better job of articulating why we're doing the family planning work and of defining the kinds of things we ought to be doing, if our five-year strategy papers took the topics up more in the context of family welfare interventions and less in relationship to the macroeconomic case. What does the room think, just as a matter of policy, about moving the center of gravity in those papers on population towards the family welfare social policy? It would be a change in the way we do business now.

KELLEY: Well, then, would you want to evaluate that intervention from the health point of view or from the economic point of view, if you moved down toward that other end, toward the health and the family welfare end of the spectrum? I think what's been suggested, and particularly this morning, is that most of the economic literature suggests that the consequences of fertility change aren't going to be primarily reflected in your economic growth rates or in changes in your macroeconomic aggregates. That's the wrong place to look for your consequences. The consequences will be found in the quality of life, if you will, at the household level. The corollary

of making that shift would be to move away from the kind of RAPID presentations that have tried so hard to sell family planning interventions on basically spurious economic grounds and shift to justify them as part of an enduring set of social interventions aimed at changing household quality of life in which you look at them in relationship to other social policies. I think our AID family planning programs are immensely sensitive to personal choice. One of the great strengths of the AID family planning program is the degree to which it has choices and preferences powerfully built in to the way it's structured.

SCHULTZ: It seems to me that the paradigm that we're still operating with, and it may be implicit, and maybe I'm wrong, is the old demographic transition paradigm. It is drawn from Western industrial development experience in East Asia, Taiwan, of course, being a prime prototype.

KELLEY: Part of the justification for putting population programs in the social sector is that then they don't have to carry the burden of things like macroeconomic failure in country X. We don't ask child survival programs to carry this burden. We were working on child survival objectives in Zaire despite the bad macroeconomic setting because there was a self-sustaining case for it in the first place. We should be asking healthier and more reasonable questions of our family planning programs.

BLACKTON: Between 10 o'clock this morning and now we have very usefully reexamined some of the issues that have been on people's minds for a while, but on which we haven't formally concentrated. I think it really is appropriate that we address the issues in the first month of the last decade of the millennial. We are setting the stage for AID to begin to move a little bit more into the intellectual mainstream of these areas.

Earlier we shaped practice more than any other player. In those days we shaped the intellectual dimensions of this issue as well; we haven't in the last decade. I would like to begin

to see that change. I think the fact that we've got a hard commitment to evaluation, the fact that we are open to reexamining the relationships with broad economic growth, the rapid changes and other types of social changes give us a chance to do it. I certainly hope that we can invite you both back from time to time and in different ways to engage you in our own process of doing this. I want to thank everybody else who came and spent the day with us, for doing so. It's been an interesting day.