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INTERACTION OF HEALTH AND DEVELOPMENT

INTERNATIONAL HEALTH CONFERENCE

**INTERACTION OF HEALTH
AND DEVELOPMENT**

**Papers of the Conference on
Interaction of Health and Development:
A Focus on Social, Economic and
Environmental Determinants
March 28-30, 1977**

NATIONAL COUNCIL FOR INTERNATIONAL HEALTH

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KEYNOTE ADDRESS

R. Nita Barrow

The discussions to be engaged in during this meeting related to health are stated as being about poverty, community development and education for development and food. It is to be hoped that central to these topics in the discussions will be how they affect people, since this should be the focus, and not water, poverty or the environment in the abstract.

There is growing awareness that medical interventions of a dramatic nature are not the ones which take care of the total health needs of people. Over the past 300 years, science has developed techniques for the identification of diseases and interventions which ameliorate them. This has produced the feeling that, since the causes of many diseases are known, health care is assured. Before assumptions of this nature are made, however, there are some salient points to be recognized. It should be noted that the world is not at the same level of development everywhere; there are under-served areas in all countries, and people at risk in many situations have little or no health care available.

Yet a responsible effort to address the problems of ill health at the most basic level are associated with questions of poverty, lack of food, poor environment, maldistribution of community services, land tenure and other forms of social injustice. It is recognized that poverty, lack of food, environmental hazards, inaccessibility of health services, are generally not problems of scarcity, but questions of distribution and control. There may be variations from country to country, but the basic issues are found at this level in developed and developing countries alike.

In meeting the needs of the developing countries, health care has been provided according to the Western pattern and based on recent developments. The fact has

been overlooked that the communities served have not necessarily reached this most recent stage represented by the last 300 years of scientific development and may still even be in the first, or nomadic, stage of development.

There is an urge to provide what is considered good for the countries. The question arises, however, as to the need for the kinds of interventions being prescribed. Are they finding solutions which are more related to the needs and the stage of development in the country? Examples will be given of some of these initiatives at this meeting. Primary health care focuses not only on health, but also on the need for agricultural development--for water, for food, and other aspects of development. This is usually presumed to apply to developing countries, but is this really so? Are there not areas in developed countries with similar needs? While being very conscious of the developments which have been made in medical science and which provide excellent care to a limited number of people in these countries, it must not be forgotten that there is not one country in the world in which more than a minority of the people have access to such excellent care.

The solutions which are being tried in the developing world will provide a key which will help to confront problems of a similar nature among the under-served populations in the more affluent societies. The historical perspective helps us understand that today, our "one world" is a fact not only in medicine, but also in the way our diminishing resources are used. People from the under-served segments of the population whose health is menaced seldom know the root causes of their problems.

Health workers should be enablers, helping communities to determine and define the causes and helping them to address the problems of ill health within their community at the most basic level--problems of poverty, lack of food, environment, maldistribution of community services, land tenure and other forms of social injustice. Although usually considered as political questions, these issues are very closely allied to health. They are the basic issues.

The large percentage of health care in the world is being given to only a small percentage of the people who mainly live in the towns. The rural populations are the most deprived. Urban inhabitants have better water supply, housing and schools. It is in the rural areas where the problems enumerated above are most acute. It is there that people receive little or no health care.

The primary health care projects which will be used as examples have been the result of the people getting together to solve their health problems, often with an enabler, or leader, who has seen the need to do something which would reach the majority of the people. This involves what is called the village health worker, or primary care worker--someone who is not a professional in the strict sense, but someone who is selected by his or her own people to be trained to provide primary health care and who is under the supervision of both the villagers and other health personnel. It is someone who speaks the language of the village in every sense of the word.

Village health workers cannot provide the sophisticated therapy and care that still remains a very important part of any health care system. But when people have become involved in taking care of themselves, this has done more than we have been willing to concede to improve health conditions. For a long time it has been thought that medical interventions cure sick people. Is this really so? When the diseases from which people suffer most in the developing countries are examined, they are diseases related to poor nutrition, to a lack of safe drinking water, to poor sanitation. If this is so, would not people's health be better provided for if they involved themselves in correcting these conditions, rather than simply through medical interventions? In other words, man's health is determined predominantly by his own interventions, by his role, rather than solely on medical interventions.

How can the presumption be changed that medical interventions can be made only by specially skilled people? There are many examples which could be enumerated to disprove this belief. Unfortunately, there is not enough time to more than mention the examples of what is being done in Indonesia, northern Nigeria, India, and Sri Lanka.

The whole emphasis on primary health care has been further enhanced by WHO's commitment and its statements and examples given in the book, Health By the People, which contains case studies of primary health care programs in different countries, which have already proven their effectiveness. The question is often asked as to what relevance this type of care has for the United States. Comments have been made that, "we don't need health care of the type you are talking about". Another comment is, "We do not consider that people who are hardly literate can be involved in their own health care. We consider that the primary care you speak of is the doctor's first

intervention, when the patient first goes to the doctor." But there are examples from the United States of areas in which similar programs have been developed to meet people's needs and where emphases may be changing.

The countries which are termed developing have long been using models for their health care from other countries. They have borrowed the concept of what constitutes good care, including care by a professional medical person as an essential for the health of their communities. When attempts have been made to provide primary health care by the people to assist the people, this has met with the resistance of governments who feel such care is second-rate and not good enough, since it is not being done in more technically developed countries. This thought is not new. When efforts are made to change this model, help is needed from the countries which have accepted a certain level of care of a first-class nature; help from the medical professionals--nurses, doctors, and other health professionals whose concepts will be a relevant part of such a health revolution, since their leadership is now unchallenged.

If there are under-served persons in communities within affluent countries, perhaps there is some help to be gained by considering whether the kinds of care now being offered in developing countries can reach the people under-served in the more developed. There may be lessons from other countries where they have established models of health care which are effectively reaching the under-served populations. The just effort would be to find out how such programs work. After having done that, the question arises as to whether people will be willing to share these facts and initiate programs of a similar nature adapted to the needs of the communities. There is also the willingness not to consider such programs as a lesser model, but as a functioning health care system which is meeting the needs of certain areas of the population.

Problems of legal status do arise. There is also the problem of the professional groups; nursing is one which is most resistant to change. It is difficult to accept that anyone else can be trained at a level other than that of the health professional to act responsibly. Professional nursing has left the patient behind in the developing countries as much as in other countries through trying to achieve excellence of professional preparation. As long as there is a patient uncared for in the world, then nurses have failed our populations and must be ready to accept alternative methods to meet their need.

One of the first things to do is look at the people and their need for care and not feel that increased production of professionals is the only way to meet these needs. Other levels of health workers must be accepted who can give the level of care that is needed. They must be encouraged and stimulated to make a different kind of participation by the people in their own health care.

It is often thought that people who are deprived do not know what they want. When they have been involved in decision making in many areas of health care, they have shown an ability to determine what is important for them, what their needs really are and how they can meet them. Help may be needed in finding the facts on which to base their judgments. The assistance which is most valuable is that of being willing to really listen and to give advice only when it is requested. This will be a new role for most health workers. It is the role of being willing to look at what is happening in other places and seeing answers that have been found which are not used in our own backgrounds in applying the solutions to problems. Ability to make alternative forms of care work in our own affluent societies may be an alternative to exporting a different model of excellence than the one presently used.

Consideration as to how scarce resources should be spent should be a major consideration when help is given to a developing country. There are some very strong feelings that we can change an idea but not the system. Large sums have been spent in putting up beautiful hospitals, in equipping them with the latest equipment in a manner which has no relationship to the local communities. When these institutions have been taken over by governments, they tend to utilize a sizable proportion of the government's scarce resources. What is the responsibility of people concerned with international health in such a situation?

The replication of extravagant use of resources is one thing which should be avoided. Attempts to qualify and quantify a system which depends on people should be carefully thought out. Efforts to computerize it and to see how replicable it is often defeats the purpose, since it is people who are being dealt with. The use of technology and very sophisticated equipment and teams does not replicate the involvement of the people.

The cost benefit of the primary care programs in a country's health system is often questioned as to whether

this is a cheaper way to provide health care, dollar for dollar. It is a temptation to answer in the affirmative, although it is difficult to document this with data at the present time. There is a great need for such data collection because all facts have to be identified before people will accept ideas. This is therefore an area for further research.

A word of caution: primary health care can be turned into a kind of care which does not involve people if the wrong approaches are used. If efforts are put into high-rise buildings filled with high-powered teams unrelated to the people's needs, we defeat the purpose. Sometimes a clinic may be given a different name, but still replicate the same old system. What is necessary is to think in terms of how the other person feels, think of what images they have of themselves, the places in which they are comfortable. Then stereotyped forms of health care will be avoided. This must be based on a willingness to accept that there is something to be learned from people and from current failures.

After considering the documentation and films which will be made available, there will perhaps be time to discuss in greater depth how to make new models relevant, how they can be codified, quantified and qualified. It is not a matter of finding an instant model of primary health care. This does not exist. But there is the necessity to work patiently on identifying needs and finding solutions. There are people who have indicated "instant" models in which health care systems are set up for people in a very short time. People who think this way should be helped to understand that this kind of a system does not involve people, that it is doing things for them. Lasting effects can only be brought about and behavior changed when the people themselves are really involved.

There is no greater opportunity for trying this out than now. One system of health care has failed when applied on a universal basis. The beginnings of another system, in which both governments and voluntary health agencies are involved, appears to provide some solution. It will only be successful, however, if people live together and learn together from each other, without skepticism and without fear. Then, perhaps, a new age of health could dawn and there would be hope for humankind.

Poverty and Health

James Grant

I had a favorite teacher in graduate school who liked to start each lecture with questions; I will follow that model and ask some very simple questions at the outset that might help set our theme for today.

The first of these concerns life expectancy in India and the United States. The United States has a per capita income of over \$6,000; India has a per capita income of about \$150. May I have a show of hands of those of you who think that the District of Columbia in the United States has a longer life expectancy than India. (There was a show of many hands.) How many of the 200 in this hall believe there is longer life expectancy in India today than in the District of Columbia? (One hand was raised.) One person. The response from the room suggests that people believe there is some correlation between income and life expectancy.

The second question I would like to pose concerns life expectancy in the U.K. and in the District of Columbia. In the U.K., per capita income is under \$4,000. May I have a show of hands of those who believe that life expectancy in the District of Columbia is longer than in the U.K. (There was a considerable show of hands.) Now may I have a show of hands of those who believe life expectancy is longer in the U.K. than in the District of Columbia. (There was a much larger show of hands.) An overwhelming majority. Obviously, you do not believe that there is a perfect correlation between income and life expectancy. The U.K. is 72 years; U.S., 71.

Third, let us pose the same question using another very poor country. Let us pick, say, Sri Lanka with a per capita income of \$130—the District of Columbia's per capita income of course is over \$6,000. May I have a show of hands of those who believe there is longer life expectancy in the District of Columbia, in Washington,

D.C., than in Sri Lanka. (There was a large show of hands.) A great majority. How many of you believe there is longer life expectancy in Sri Lanka than in the District of Columbia? (There was a show of a few hands.) Eight hands. The eight are correct! That little island with a per capita income of \$130 has a life expectancy of 68 years. The District of Columbia has a life expectancy of 66 years. This, of course, raises the question of why. Now may I have a show of hands of those who think they know the answer to why Sri Lanka has a longer life expectancy than Washington, D.C. (There was a show of a few hands.) Three or four hands. In truth, we really do not know.

The first point I want to make in my talk is that there is a correlation between poverty and poor health. Thus, the low-income countries with large numbers living in absolute poverty have an average life expectancy of only 48 years; the high income countries as a group, on the other hand, have a life expectancy of 71 years. This corresponds basically to what one would expect.

Secondly, when we look at the question of poverty, it is relevant to remember that there are two overlapping groups shown in Chart 1 of over one billion people each that comprise the poverty problem. (See attached)

First, there is the group of poorest countries, consisting of some 40-odd countries with a combined population of somewhat over a billion people and per capita incomes below \$300 (their average is about \$150.) They are extremely poor in contrast to both the middle-income group of countries (containing some 800 million people) that have per capita incomes between \$300 and \$2000, and the high-income countries with per capita incomes of \$2000 and more.

Another way of defining the "poorest billion" is as those billion poorest people living in "absolute poverty" in all three categories of countries. The overwhelming majority of them are in the low-income countries; some seven to eight hundred million of those living in the poorest countries fall into the category that the World Bank calls "absolute poverty." Some 150 to 200 million of those living in the middle-income countries may be said to be living in absolute poverty--in northeast Brazil or in parts of Nigeria, for example. Of course, the number living in absolute poverty in parts of the very rich countries of the United States, Europe, and Japan is much smaller.

This problem of the "poorest billion"--this problem of extreme poverty, no matter how it is viewed--has ties with a whole series of global problems. We

Chart I

WORLD'S POOREST COUNTRIES AND PEOPLES
 WORLD DISPARITIES 1975-2000
 (millions and \$)

	Population ^{1/} (millions)				Per Capita Income ^{2/} (in constant 1975 U.S. \$)			
	1975 Total	Absolute Poor	Under- nourished	2000 Total	1965	1975	1985	2000
Low Income Countries (LIC: \$300-per capita)	1,300	700-800	400-640	2,000+	130	150	160- 180	180- 230
Middle Income Countries MIC: \$300+ p.c.)	800	150-200	80-120	1,200+	630	950	1,130- 1,350	1,510- 2,400
High Income Countries (HIC: \$2,000+ p.c.)	700	50-70	20-35	800+	4,200	5,500	6,700 8,100	9,000- 14,600

^{1/}Excludes centrally planned economies.

^{2/}The higher figures used for 1985 and 2000 are those used for a World Bank projection thru 1985: 1.6% p.c. for LIC, 3.9% MIC, 4% HIC. The lower figures assume growth at half that rate if current disorders continue. A LIC 4% p.c. growth would raise year 2000 figure to \$330, e.g. USA in 1776.

as a group have just looked at the correlation between poverty and hunger and malnutrition and higher death rates. But it has become equally clear that there is a major correlation between the poverty problem and the population explosion: where there is extreme poverty, birth rates remain very high, and family planning programs, while they may be necessary and can be of great value, alone are not sufficient without effective address of the poverty problem. Robert McNamara, President of the World Bank, is addressing this relationship in a major address in April.

Poverty is also associated with low productivity. An example of this is the situation in South Asia, where food imports by the mid-1980s, if current trends continue, will be 25 million tons a year; in 1970, South Asia imported only 3 million tons of food. Of course, poverty is also intimately connected to rural-urban migration. Most extreme poverty is in the rural areas and thus contributes tremendously to the exodus to the already overburdened cities. All of these correlations raise the next question of whether the poverty problem can be tackled. What does it take to deal with the poverty problem?

We have learned in reviewing the development experience of the past 30 years that the key to tackling the poverty problem is political will--there must be sufficient will and desire within these societies, a will which may derive from a variety of sources, to effectively address the scale of their poverty problems. Within the rich countries, the problem of political will is relatively manageable because the cost of reforms required in most of these countries for helping their minority of very poor is not too large a burden on the society. A relatively small amount of will is required to mobilize the limited resources required to deal with the worst aspects of their poverty. It is more difficult, but still manageable, in the middle-income countries which have more resources and a smaller proportion in absolute poverty than the poorest countries. In the low-income countries, however, where the poor are the overwhelming majority, the necessary political will on the part of decision makers is far more difficult to muster.

The high-income countries, of course, have substantial resources in their societies. In our society, for example, the very poor are less than 20 percent of the population and less than 10 percent are below the poverty line. Serious attention to the problems of this portion

of the population can result in substantial progress. The recent U.S. experience substantiates this; serious attention to the poverty problem beginning in the 1960s has reduced the number of those living below the poverty line from over 45 million to something less than 20 million today. And it is feasible to project that, with continued attention, the worst aspects of poverty in this country will have been eliminated 10 to 15 years from now. While relative poverty will still be a problem, absolute poverty should no longer exist.

The chart below illustrates how much the problem of poverty is a structural problem in the rich countries today.

Chart II

Percentages of population below
"poverty line" in various countries and
expenditures on income maintenance programs
in early 1970s

	Percent population below poverty lines Standardised definitions	Percent of national product spent on income maintenance programs
Australia	8	4.0
Canada	11	7.3
France	16	12.4
Germany	3	12.4
Norway	5	9.8
Sweden	3 1/2	9.3
UK	7 1/2	7.7
US	13	8.0

Source: OECD

In our society, it is primarily the blacks, the old, and the politically weak who live in poverty; thus it is, as in other rich countries, in large measure a structural problem. This is graphically illustrated by the recent OECD studies that looked at poverty in all OECD countries and came up with some rather startling statistics.

Of the OECD countries, Germany and France have the highest income transfers by government from those who are working to those who are disadvantaged--the old, the very poor, the sick. They both transfer 12 percent of their GNP to these groups. We in the United States transfer nine percent of GNP. It is interesting, however, that France, despite this massive income transfer, has the highest percentage of its population in poverty--relative poverty--of any of the OECD countries. Germany--along with the Scandinavian countries, which we normally think of as having the smallest proportion of poor--has the lowest.

Why the difference in spite of similar levels of income transfer? The French system of income transfers perpetuates the income patterns of the working period. Thus, a middle-income person while he is working gets a middle-income pension in old age, and a low-income person while working gets a lower pension after retirement. In Germany, the pension payments have nothing to do with the income earned during an individual's working time. Rather, they are flat payments, like our Social Security payments, which are not really tied to income. But their amount is larger than under our Social Security system and thereby has significant effect on the distribution of income.

The middle-income countries as a group are progressing far more rapidly in terms of national product than most people realize. Latin America has a larger gross national product, in real terms, than did Europe in the early 1950s. By the end of this decade, Latin America will be producing two million cars a year--that is, its productivity is definitely on the rise. By the end of this century--assuming that world systems work reasonably well and that there are no major global disasters--per capita income in Latin America should exceed that of Western Europe in 1960. Thus, within the next decades, those countries will have enough resources in their society to deal with their poverty problems if they have a moderate amount of political will to do so. My assumption is that, after a lot of political turmoil,

there will be a positive response to the poverty issue, particularly in those countries such as Colombia and Venezuela with a reasonably open political process.

For the low-income countries, the problem is far more difficult. Today, the per capita income in the 40-odd poorest countries--primarily in South Asia, a large part of Africa, and a few spots in Latin America--in real terms is one-half that in the United States in 1776. If the growth patterns go extremely well in South Asia, in the Sahel in Africa, and in East Africa, these countries by the end of the century will just begin to approach the per capita income of the United States and the U.K. in 1776. And that level will still be only one-third the income of the middle-income countries today.

Thus, it is clear that most of these countries will still have massive possibly even larger, poverty problems at the end of the century than today unless something more is done. Their structural problems are very great. There are simply not enough rich to tax in order to transfer substantial amounts of income to the poor; in fact, the relatively affluent, upper 20 percent in these countries includes the lower paid factory workers who want their governments to do more, not less, for them. Taxing the upper 20 percent of the so-called rich more heavily in India would affect every factory worker in Calcutta. Thus one must ask what the prospects might be in this part of the world, which today contains one-quarter of mankind and by the end of the century will comprise one-third of the global population.

As can be noted from Table 1, there are three groups of countries in this low-income category that have managed since the early 1950s to move toward meeting the basic human needs of their population, even while their incomes have remained very low. The countries that are examples of this are the following: 1) China--although this conclusion is based on a somewhat limited viewing of that country--and probably North Vietnam and North Korea; 2) much of the East-Asian countries of Taiwan, South Korea, Hong Kong, and Singapore, which, following a very different set of patterns, have also been able to meet the basic human needs of their populations; and 3) Sri Lanka and regions such as Kerala in India, which are meeting a high proportion of basic needs at even lower per capita incomes. (See attached)

What we have learned from these groups of countries is that the symptoms of poverty need not necessarily go with low income. Or, to express it differently, low

Table 1

Country	Life Exp. (Years)	Inf. Mort.	Death Rate	Birth Rate	Literacy Rate %	p.c. GNP	PQLI ^{1/}
LIC	48	134	17	40	33	\$ 152	39
India	50	139	15	35	34	140	41
Kerala	61	56	9	30	60	110	69
Sri Lanka	68	45	8	28	81	130	83
China ^{2/}	62	55	10	27	25	300	59
S. Korea	61	47	9	29	88	480	80
Taiwan	69	26	5	23	85	810	98
Iran	51	139	16	45	23	1,250	38
Netherlands	74	16	8	14	98	5,250	99
U.S.A.	71	17	9	15	99	6,670	96

^{1/}Composite Physical Quality of Life Index based on life expectancy, infant mortality, literacy.

^{2/}Rough estimates.

income does not necessarily bring with it the worst consequences, such as high infant mortality and short life expectancy, normally associated with poverty. All of these societies--Taiwan, Korea, China--achieved monumental progress in basic human needs even before their per capita incomes reached \$300; Sri Lanka and Kerala have done it with per capita incomes below \$150. For Sri Lanka to have a longer life expectancy than the District of Columbia is a major accomplishment.

Table 1 provides dramatic illustrations of the different impact on the address of basic needs of different patterns of development. Two countries illustrate dramatically the anomalies. In India as a whole, life expectancy is now 50. In the Indian state of Kerala, which has a lower income than India as a whole, life expectancy is 61. Obviously, something very different is happening in Kerala. Iran, which has a very high per capita income for a developing country--over \$1,200--has a life expectancy and an infant mortality rate virtually the same as India with its much lower income. Obviously Iran's system is not yet working adequately for its large number of poor.

The consequences of not addressing poverty problems in ways that are as effective as those countries have been are very, very high. We at the Overseas Development Council have calculated that if all developing countries had death rates of 10 or less and birth rates of 30 or less, which is the pattern achieved in recent years by the countries just cited, some 11 million fewer people, a majority children, would die every year and nearly 20 million fewer people would be born every year. The forthcoming World Food and Nutrition Study by the National Academy of Sciences came to very similar conclusions.

This rather dramatically illustrates the consequences for that majority of poor countries that have not yet overcome the structural problems impeding their abilities to meet basic needs. We get very excited if a famine in Ethiopia causes a hundred thousand people to die--and properly so. But it is worth emphasizing and important to realize that structural problems are causing more than 10 million deaths every year and contributing to many other problems, including the population explosion--this net annual addition of about 10 million to the global population. The stakes are very high.

In addressing the question of what distinguishes the countries successful in meeting the basic needs of

their populations from the other poor countries, it should be noted that the successful countries--mainland China, the highly productive smaller states of South Korea, Taiwan and Singapore in the Pacific, and Sri Lanka, which is more of a welfare state--represent three very different kinds of systems. Yet in each of these societies, for one reason or another, there has been a unique degree of political will to address the problems of its poor majority.

In the case of mainland China, this political will was a byproduct, as we all know, of some 20 years of civil war and an 8-year Japanese intervention that helped to tear down the old system. In the case of Taiwan and South Korea, it was a combination of circumstances (including, very importantly, having been so badly scorched by the disastrous Nationalist experience on the mainland of China) that prompted those governments--out of sheer instinct for political survival--to address as first priority the problems of their poor majority.

Sri Lanka is really quite unique in that, under the circumstances of that island, political power resides in the villages. And because much of the wealth in that heavily export-oriented plantation economy was initially owned by Britishers and others without domestic political power, it was possible to make income transfers to a degree not politically possible in most societies.

This description obviously grossly oversimplifies the dynamics of what has taken place in those countries. But one can say that the political will within those countries to act has led, broadly speaking, to two different--but complementary--types of measures. The first of these--to be found in China and Taiwan and Korea--is the massive transfer of productive assets from the more advantaged groups to the poor majority. Land reform policies, for example, in the case of mainland China, first allocated the land to the tiller and then to the communes; in the cases of Korea and Taiwan, land was distributed to the tillers. In these societies, the average farm today is two acres and there are effective support systems. The second type of measure that has contributed to the success of these countries is the delivery of effective, low-cost education, health, credit and other services. But the key in these societies is that almost every individual has a job. He is probably producing twice as much, possibly working twice as hard as his predecessors were 30 to 40 years ago. This has given families the income to buy into health, education, food, and other services.

In the case of Sri Lanka, the first round of reform consisted essentially of services and food subsidies financed through income redistribution. Taxation by the government of the modern, advantaged part of the society was able to support low-cost education and health services; and, most notably, the equivalent of two pounds of free grain per week distributed for some 25 years to everybody who did not pay an income tax. This distribution of food was a form of income transfer. More recently Sri Lanka has undertaken a redistribution of productive assets through land reform and other measures. The consequences of this kind of redistribution have been that Sri Lanka and the neighboring Indian state of Kerala which followed very similar policies remain very poor in terms of national output of goods which might have resulted from investment of these sums into capital plant rather than into human resources. But they are poor without having some of the worst consequences of poverty that are prevalent in so many of the other poor--and not so poor--countries. And birth rates are down.

Of course, the question that gets raised is, how is this possible? What is the policy mix needed to accomplish this? At the most, these societies in the 1950s and the 1960s were spending no more than ten dollars, and in most cases only four or five dollars or even less, per capita on what we would call health services; yet they were getting results in terms of life expectancy that now equal or surpass those in the District of Columbia where the per capita health expenditures alone are far more, in fact several times, the total per capita income of Sri Lanka. Obviously, far more than just medical services are responsible for these results.

Chart 3 on "Individual Health/Physical Well Being" addresses this issue. It shows that good nutrition status plus freedom from illness and infection equals physical well-being. The adequate nutrition required for good health depends on a number of factors: a) enough food being available in the country for everybody; b) the pattern of intrafamily distribution (if, as in hundreds of millions of cases, there is not enough food for the family, a critical issue is how it is distributed within the family); and c) biological utilization. This last point is one Americans rarely think about in our society. If an individual is running a fever, has hookworm, has intestinal worms, or has malaria, his use of food is vastly different from what it would be if he were healthy. The infections and fevers which affect a majority of the

world's very poor contribute significantly to a nutritional imbalance and a secondary malnutrition as a result of accelerated protein and calorie use. Children in particular succumb for lack of resistance factors provided by adequate nutrition. Excluding deaths from factors related to childbirth, some two-thirds of deaths of young children are estimated to be preventable with adequate nutrition.

The left-hand side of the chart shows that the frequency of illness and infection is in part a consequence of an individual's nutritional status. A well-nourished person will get, as we all know, less sick, less frequently. But how often we get sick is also a question of the environment in which we live. What kind of preventive measures have been taken in a society in terms of inoculations, hygiene, sewerage, water, and air pollution regulations, etc. There is also the question of how long one stays sick after becoming sick. The duration of sickness again turns in substantial part on how well-nourished the individual is at the time he falls ill and, secondly, on the availability and use of curative services.

The chart further shows that jobs, income, education, and culture all contribute to determining the individual's use of the food that is available in the society and the use of curative services. Without income, food cannot be purchased even if it is there. I will never forget Calcutta during the great famine in 1943 when thousands of people were dying on the streets every day, even while the grain stores had their great bins full of grain. There was just no correlation between those who were dying without incomes and the grain in the food stores. The food was there, at a price, yet the poor had no money and over a million people died during that famine.

The same holds true for health services. Without money, even those health services that are available in the society may not be had. And the question of income is primarily one of jobs, and what determines whether there are jobs or not? In large part, in a primarily rural society, it relates to the system of farming that is predominant.

This may be graphically seen by comparing Northern Mexico and Taiwan. Northern Mexico has gone the route of capital-intensive farming with large machines. On its modern farms there are today only a handful of workers per hundred acres. Hundreds of thousands of workers have been displaced. It can really be said that

agricultural modernization in Northern Mexico has made more local people hungrier. The average landless laborer in Northern Mexico works less than half as many days today as he did 25 years ago. In Taiwan, on the other hand, which has two-acre, very labor-intensive farms and many supporting services, the number of days worked has greatly increased in the last 30 years and there are some 70 to 80 man years per hundred acres. This kind of system provides many with the jobs and the income to buy services.

Referring back to the chart, it shows two areas in which the local or the national jurisdiction can intervene to affect an individual's use of food and curative services, regardless of his income. These are called "medical interventions" and "nutritional interventions." Sri Lanka has provided through national financing many of both kinds of interventional services. China and Taiwan have placed greater emphasis on the provision and distribution of jobs and income, with health services being largely self-financed at the local level in both Taiwan and China. This is obviously a very complex set of issues, with different societies achieving success in addressing basic needs following different emphases.

What are the possible targets that mankind might set for itself in the remaining years of this century? Can we really hope to make some spectacular progress in addressing basic needs? A number of informed people and informed groups have responded to that question in the affirmative. The International Labor Organization, which has probably done some of the best studies in this whole field of poverty and human well-being, has concluded that it should be possible by the end of this century to overcome the worst consequences of absolute poverty.

The Tinbergen group of economists and sociologists, of which I was a member, working over the last two years has come to the same conclusion. Robert McNamara of the World Bank, in his speech in Manila, also concluded that it should be possible--assuming there really is the desire and the will to do so--to eliminate the worst aspects of absolute poverty by the year 2000 in all countries. The massive World Food and Nutrition Study being undertaken by the National Academy of Sciences for President Carter has come to the same conclusion.

The Tinbergen group, in its report to the Club of Rome, Reshaping the International Order (RIO), went one step further and set specific targets for countries to reach by the end of the century, if they so wish, and if

there is international cooperation toward this end. This conclusion has been concurred with by my organization, the Overseas Development Council, chaired by Father Theodore M. Hesburgh. Recently, the New York Times, as well as the Associated Press and United Press International, carried stories reporting Father Hesburgh's comments on the Council's conclusions on the potential for eliminating absolute poverty by the end of this century.

The Tinbergen-coordinated RIO group and the ODC believe it is possible, by the year 2000, for all countries to have a life expectancy of 65 years or more (compared to the 48-year average for the low-income countries today); to have an infant mortality rate of 50 or less per thousand (compared to the present 134 in the low-income countries); to have a literacy rate of 75 percent or more (presently 33 percent in the low-income countries); and to have birth rates of 25 or less per thousand (compared to 40 now). These are goals that have already been attained by Sri Lanka in the 1970s, by South Korea and Taiwan in the 1960s. But these are also goals to be attained in regions of rich countries that have not yet reached these levels. Rolf Lynton from South Carolina recently told me that even today there are counties in South Carolina in which the non-white population has infant mortality rates of 60 and over. In a society as wealthy as ours, infant mortality should really be down to 10 or less for all segments of the population.

What does it take to reach these kinds of goals? The key is increased national and international will to address this set of problems. In rich countries like the United States, it really is just the national will that is required. My own hope, my own conviction, is that our society, in the next 10 to 15 years, will break the back of our remaining absolute poverty problem. We still will have a question of relative aspirations and of some relative poverty, but the absolute poverty problem really should be licked in our society in the next ten years.

For the middle-income countries to have the resources to do the job (even where they have the will), they need to be treated much more as equals in the world trading system. They have the ability to earn the resources they need. But to do this, they must be treated equally by the rich countries. It is not generally recognized that most developing countries today are treated

internationally like the blacks in our country were treated in the past (much less today). They are required to go to the back door where their products face many tariff and non-tariff barriers that do not confront the types of products primarily produced by the industrial democracies. And other aspects of the international system, which was set up by the industrial countries to meet their own needs, work, in many cases, to the disadvantage of the developing countries.

This is something that President Carter has recognized; the problem faced by the middle-income countries today bear many similarities to those faced by our own South vis-a-vis the industrial Northeast in the latter part of the 19th century, with some aspects continuing even to the middle of this century. Illustrations include discriminatory freight rates and adverse terms of trade for the primary products of the South, as compared to the manufactured goods from the North.

For the low-income countries to be able to meet the goal of eliminating absolute poverty by the end of the century, an additional expenditure of \$12 to \$15 billion a year should be directed toward their education, health, nutrition, and rural employment sectors over a 25 year period. Initially the bulk of these resources will have to come through increased resource transfers from outside. If India were to spend per capita the amount on health, nutrition, and education that Sri Lanka is spending today, it would have to almost double its tax rate to raise the revenues to do so; this would seem to be an impossible thing to do under current political circumstances.

How heavy a burden would \$10 or \$12 billion be for the rich countries? If Germany and Japan and the United States were each to reach the .5 percent of GNP in aid transfers that the rest of the industrial countries have reached, this would provide an additional eight billion dollars--two-thirds of the amount that we are talking about. It should be noted that for the United States this would merely represent returning to the average level of aid as a percentage of GNP that prevailed in the Kennedy years. In constant dollars, the level of U.S. aid transfers has dropped by almost half in the last 12 years, even though our per capita GNP then was some \$300 billion less than it is today.

In addition to more money, increased knowledge is needed to effectively address these problems. I divide the need for increased knowledge into two types. First,

It is terribly important that research be more poverty-focused, be directed more toward helping those with low incomes. Total world expenditures on schistosomiasis, which affects hundreds of millions of very poor people but very few affluent people, is approximately \$4 to \$5 million a year. The amount of money being spent in the world on cancer research, a problem of the relatively rich societies, is a hundred, or even two hundred, times that amount. This trend is just as true in agricultural technology. The research being done is largely on technologies such as fertilizer intensive grains that are easier for the richer farmers to use.

Second, there needs to be a great deal of research on systems. What is it that makes things work in other societies? None of us really know how or why Sri Lanka has achieved these kinds of health results at its low level of income; it has simply not been adequately looked into. In doing this kind of research, it will be important to look not just at the health system, but also at the agricultural system, the environmental system, food subsidies, and all other factors that may be at work.

Finally, I would like to say that we need to give far more attention to progress--and to measuring progress--in meeting basic human needs. Somehow, the world has gotten caught up in talking about growth in terms of GNP. While visiting the Indian Planning Commission in 1976, I asked for a state by state breakdown of life expectancy and of infant mortality. After considerable searching through their files, the staff members still could not give me either life expectancy or infant mortality figures by state, although they could give me the GNP, and they could give me the number of doctors. But they did not have readily available these figures that measured end results. It is because of this kind of thinking among development planners in most countries and in most institutions that the Overseas Development Council has developed a still somewhat crude measure--called a "Physical Quality of Life Index (PQLI)--to be used alongside per capita GNP to measure development progress in terms of human well-being.

The PQLI is based upon life expectancy, infant mortality, and literacy. It is a simple, equally weighted composite of separate indexes for each of the three indicators. In constructing the index for life expectancy, for example, we assigned the number 100 to the most favorable rate achieved by any country in 1973 (75 years in Sweden) and the number 1 to the most unfavorable

rate achieved anywhere in 1950 (28 years in Guinea Bissau). The reason for going back to 1950 was to allow for comparisons across time without resulting in negative ratings. Within that index, all countries were ranked according to their performance.

A similar index was done for infant mortality. Sweden had the best performance in 1973 (9 per thousand) and, therefore, was rated 100; Gabon (229 per thousand in 1950) was assigned the 1. All other countries were ranked accordingly. An index was constructed for literacy as well. It should be noted that while the PQLI currently incorporates only these three indicators, similar steps could be taken with a whole host of indicators. We have concentrated on using indicators that emphasized the results of development, such as life expectancy, rather than inputs such as doctors per thousand of population, and on indicators for which at least crude data are available from most countries.

As can be seen in Table 2, the composite of these three indicators--the PQLI--reveals some startling facts. Generally, the PQLI corresponds quite closely to the GNP indicator. But there are some striking exceptions. Among the lower-income countries, India's PQLI is 41 but Kerala's is 69. Sri Lanka's is 83. Iran--with its per capita income of \$1,200--has a PQLI comparable to India's.

Table 2

	<u>Average Per Capita GMP</u>	<u>PQLI Achievement</u>
	(\$)	
Lower-Income Countries	152	39
India	140	41
Kerala, India	110	69
Sri Lanka	130	83
Lower Middle-Income Countries	338	59
Malaysia	680	59
Korea, Rep. of	480	80
Cuba	640	86
Upper Middle-Income Countries	1,091	67
Gabon	1,960	21
Iran	1,250	38
Algeria	710	42
Taiwan (ROC)	810	88
High-Income Countries	4,361	95
Kuwait	11,770	76
United States	6,670	96
Netherlands	5,250	99

This index is a way of putting the spotlight on progress being made in meeting basic needs. As can be seen from the Kerala comparison with the rest of India, and from Table 3 and 4 applying the PQLI to the United States and other countries over an extended period, the PQLI is also a sensitive mechanism for measuring differences within countries.

Table 3

		<u>1950s</u>	<u>1960s</u>	<u>1970s</u>
Algeria		35	38	42
India		28	36	42
Egypt		32	41	45
Brazil		53	--	66
Sri Lanka	45(1946)	62	77	83
Taiwan	55(1948)	69	81	88
Poland	54(1935)	72	86	93
United States	85(1939)	92	94	96
France	83(1945)	87	94	97
Norway		--	--	99

Table 4

	<u>1900</u>	<u>1939</u>	<u>1950</u>	<u>1973</u>
All U.S. Population	63	85	91	96
White Population	65	87	92	97
Other Races	70	71	81	89
Selected States				
Mississippi		81	87	92
New Mexico		69	85	94
Texas		81	87	95
Wisconsin		89	93	97
Minnesota		91	95	98

Obviously—because the data on which it is based are very uncertain—the index is still very crude. But we must remember that GNP data are also very uncertain, because GNP does not pick up, for example, what the distribution of income is within a society. It measures the output of goods and services, not what happens to those goods and services in terms of peoples' well-being. Thus, the shift from breast to bottle feeding of infants that often accompanies higher income in poor countries usually leads to higher infant mortality. Moreover, there is a considerable proportion of a society's output that does not even get incorporated into GNP data. A housewife's work in the home does not show up in GNP, for example. In the United States, if every housewife went to work for a neighbor for pay, the figure for GNP would go up substantially, and productivity would probably fall in the process! The PQLI is also psychologically more heartening than GNP measurements. This is because, as is brought out in comparing Charts 4 and 5, in most instances the basic components, such as life expectancy, show a narrowing over time between the high- and low-income countries even while the income gap may be widening.

Two Measures of the Gap Between Developed and Developing Countries, 1960-1975 (\$ and per thousand)

Chart 4

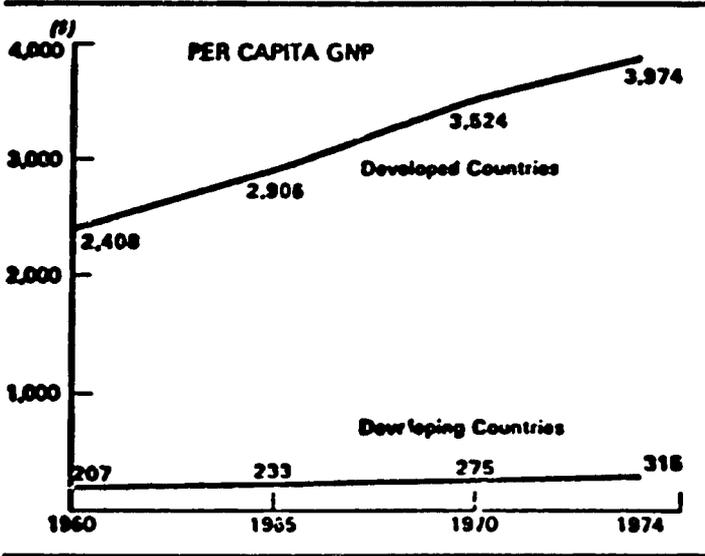
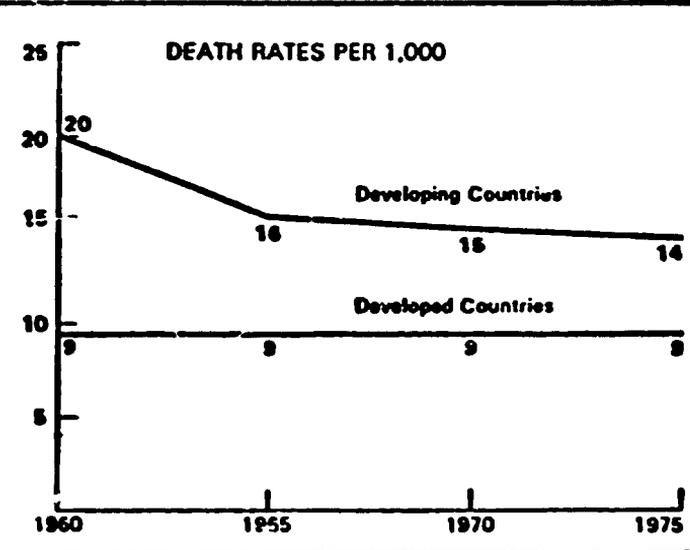


Chart 5



Let me close now by saying that the international community may be on the verge of accepting a new set of basic human needs goals—a sort of poverty line to be achieved by the end of this century in all societies—as the central thrust of development efforts. The U.N. General Assembly in December passed a resolution saying that the core of the Third Development Decade in the 1980s should be the address of basic human needs. The U.S. Congress last year, both the House and the Senate, passed resolutions that there should be a "right to food." Interestingly enough, these resolutions were opposed by the Ford Administration.

And President Carter has moved not only into the political human rights field, but he made, on Inauguration Day, a relatively little noticed (within the United States) "Statement to the World" to those "who did not participate in our election but will nevertheless be affected by my decisions." In this message, he said that there is a basic right to be free from hunger, poverty, and disease, as well as from political repression, and that, while we Americans cannot do it for the rest of the world, since each nation has to do it primarily for themselves, we do commit ourselves to participating and helping in this effort. In fact, he pledged that we will take a lead in the "common effort" to address these issues. At his recent United Nations speech, he returned to this theme and addressed the question of basic human needs. To the surprise of many who assumed that we had long ago ratified the Declaration of Human Rights, which refers to economic and social, as well as to political rights, he promised that we would now move toward ratifying that document.

Such statements and resolutions definitely represent progress, but whether they survive only as rhetoric or whether they become substance, in the final analysis, turns on people like us. First, are we willing to help create the supportive atmosphere that says, "yes, this is what we want our society to do at home, and we are prepared to work with other societies toward that end." Second, and even more relevant for us here, the success of this kind of policy depends on the fact that we do not yet quite know how to do all of this. We can talk about human rights of this sort. We can see from the experience of some low-income countries that it is possible to achieve these rights. But it is clear that (a) we do not know what happened in those countries specifically, and (b) even if we knew what happened in those countries,

something different probably has to happen in each country to suit its circumstances.

What is required is a tremendous amount of intellectual ferment, interchange and pursuit of knowledge, as well as a great increase of cooperative effort in addressing basic needs. This, it seems to me, is what our being here at this Conference today is all about.

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Community Resources and Health

A. T. Ariyaratne

Friends, I was wondering why I accepted the invitation to address a professional group like you, particularly, as I am a village worker. Human beings have strange ways and when I got the cable asking me to come and speak to you, promptly I responded, without thinking why.

Now I am here and I will think aloud on the theme you have given me, Community Resources and Health. I represent the movement which was introduced as Sarvodaya: "Sarva" means all, "Udaya" means awakening--awakening all. So, to me, community means everybody--all of humanity. If I may go further, community means the entire living world, because in our culture, health or even medicine is defined as something that is found everywhere. It cannot be taken out of any experience or situation which affects the mental or the physical well-being of man.

To give a good example, in Buddhist literature the most famous physician was a man called Jivaka. He had to undergo training for a very long time under his teacher in the city of Taksila. For seven years, he studied under this teacher and he was a brilliant student. One day, he asked his teacher, "Sir, I have been with you for seven years. Everything you taught me, I have studied. Could you tell me how much longer have I to study under you before I could start practising?" The teacher told him, "You had better go around the City, an area of sixteen square miles, make a list of things that cannot be used for medicine, and then come back." So this student went around everywhere, trying to make a list of things that he could not use for medicine. He came back and told the teacher, "Sir, there is nothing I could find that cannot be used for medical purposes".

Now, in the Eastern part of the world, this is the way that we look at things. For example, our science of medicine is called ayurveda--science of life. So, to me, to build up the health of a people, the greatest resource we have is our physical and our living environment. First, the human being. In my country, I have had experience for the last about 25 years in trying to mobilize the resources for the well-being of man. When you have to mobilize human beings as a resource for their own well-being, you have to find out what the most valued thoughts in their culture are.

In my culture, every human being was supposed to work towards the total awakening of his full personality, based on certain principles. To awaken one's personality, people believe that the first principle they should accept is the thought of well-being of all--respect for all life. Respect for man, animal and plant. Respect for all life, therefore, was the fundamental principle on which all great cultures in Asia, particularly in India and Sri Lanka, were built.

In my own country, people had a sort of a national anthem which they sang for nearly 25 centuries in which they said, "May there be seasonal rains. May there be no violent economic prosperity. May the entire world be happy. May the rulers be righteous." Now, this was the wish of the community--the wish of the nation. In other words, they never thought in terms of the well-being of the majority. When you look at the figures which Dr. Grant just gave, my country happens to be one of the better-off countries in the developing world. But, are we going to be satisfied with this? Personally, I am not going to be satisfied until such time as every single human being is free of disease.

There is no equivalent word in our language for disease. We call it dhukka. Dhukka means contact with suffering. Suffering may be due to a number of reasons, thus a person can become ill due to a number of reasons. One may be due to the introduction of a certain virus or germ or bacillus; secondly, there may be physical ailments due to your metabolic process not functioning well; thirdly, there may be certain mental disabilities; fourthly, there are natural causes such as hunger, thirst, senility and, finally, death. All these conditions result in contact with suffering.

So, the culture to which we are born provided us with a method by which a form of healing was evolved whereby we could experiment and discover the four causes

of suffering. In the case of the first, perhaps they resorted to surgery; in the case of the second, they may have used medicine; in the case of the third they might have applied a sort of psychiatry or some similar type of treatment. Fourthly, in the case of natural diseases --when I say natural, I have in mind conditions like senility. Why are we born? Why do we die? Why do we get old? There are some spiritual answers to these rather cryptic questions. That is why, in certain holy texts, Lord Buddha was referred to as the "Biggest Healer"; not because he healed physical ailments, but because he relied on the inscrutable power of nature in curing even deadly diseases. He said, "I have found a way. Here you are! You also try it out."

Therefore, I say that personality "awakening," the foremost thing in life, and acceptance of the thought, "respect for all life," leads one to compassionate action. What I do now, including my coming here, can be regarded as a compassionate action. I believe that everybody should have welfare, but there are people who are suffering. As a human being, if I go in search of those who are suffering, and do something--some compassionate action to remove the causes that lead to their suffering--I become happy, because I have made a positive contribution to ensure another's happiness.

So, there is a thought--respect for life--and there is compassionate action--to remove causes that lead to suffering. Third, there is an immediate result, the joy of sharing one's joys with others. And this would almost effortlessly lead to a fourth state, namely, mental balance. This state may be described as Equanimity. These are the four principles which determine whether a human being is on the path to true progress. So this line of action provided the philosophy for the individual. The culture, on the other hand, provided another set of principles for the society.

If, as a group, we are to progress within the ambit of a family, or a village, or a nation, or even the world community, there should be certain basic principles guiding us. Most important of all principles is the principle of sharing--sharing of knowledge, sharing of resources, sharing of love, compassion, etc. This should be cultivated as a fundamental quality among human beings. Then comes "pleasant language," the refined art of communicating with one another. You know in the world today, how much money, how much resources, are being spent to alienate man from man, rather than to integrate different groups of human beings. Third in importance comes

"constructive activity." As a general rule, human beings should get together only for the purposes of constructive activity. Fourthly, equality in relationship with others

So, based on these eight principles, four of which are meant for the individual, and four for the group, we started a movement to bring about a type of all-around development, starting from the grass roots level. We are a country of village communities, like most others in the world. We have about 23,000 villages in our country. In these 23,000 villages, over 85 percent of our people live. And these people have had, as I pointed out earlier, a rich culture. How far can we harness this culture to bring about betterment in their lives? Groups of us, who accepted these ideas, started going to village areas, not with a patronizing attitude, but with a certain feeling of oneness with the rural communities. We lived with them; we talked with them; we planned out development programs with them; and then we worked together, shoulder to shoulder, with them to solve some of the basic problems that they were faced with. In this process, whether they were engaged in education or trying to increase the income of village communities, one fundamental factor emerged, that is that all the problems in village life have a strong inter-relationship.

Unless we learn to look at these problems sympathetically, we may fail to appreciate that a problem in a rural community in Sri Lanka may have a direct relevance to your way of life in this country. We cannot escape that fact. There is however, a vicious circle that is operating. We have to break this vicious circle--a circle which is composed of illiteracy, disunity, disease and ignorance--which has to be correctly identified for a solution to be effected. Because of illiteracy, a man may have a low income; because of illiteracy, a man may suffer from disease. Because of illiteracy and low income and disease, a man may be subjected to a political and economic type of exploitation. In other words, this whole thing works in the form of a vicious circle.

When we go to a village community, the first thing we have to do is to lay a psychological infrastructure in the village which will enable us to transcend all man-made barriers and try to think together. I think I should explain to you what I mean by the psychological infrastructure. This is very important, because various people have various notions of people's participation.

Everybody speaks of people's participation. A bureaucrat going into a rural area in his brand new, imported jeep and having a few words with the village people, comes back to the office and speaks jubilantly of "People's participation in planning." That is just poppy-cock!

During the last two centuries or so, our country, which was subjected to colonial rule, evolved three dangerous structures. The first of these can be regarded as the system of economic exploitation, where the rural areas were exploited by people in urban areas for the preparation of which a certain legal base was supplied by their successors. The second obnoxious structure can be regarded as the highly bureaucratized administration in which the administrator was not responsible to the village community, but was responsible to his superior administrator--the hierarchy ascending up to the administrative capital, Colombo. This type of bureaucratic system did not represent the aspirations of the people but represented the wishes of the rulers. Third, although of very recent origin, a political system--a party political system where the village-level party politician did not represent the wishes of the village people, but rather was an instrument of the people in the city, or in some instances reflected the views of entirely alien countries--grew up quite menacingly!

So, people had to work within these systems. The ethos of rural people was destroyed by the aforementioned three systems, and one of the fundamental principles we had to face was to find ways and means of changing the unpleasant situation arising out of these systems and evolve some positive paths to progress, introducing in the wake a judicious health-care system, as well.

Other countries had a health department. So it was natural that we also should have a health department! They had a director. Therefore, we too, should have a director. They had superintendents of health services, so we also should have superintendents of health services. The doctors in other countries received a very high income together with social status. So it came to pass that our doctors should also be well paid, whether people live or die, and maintain their status at all cost.

This whole system of values--the techniques and structures--were superimposed, so it was not easy to break through them. When we were children, we still

remember that, for most of the illnesses, for which we now rush to the doctor, there were very effective home remedies, both curative and preventive. This system was a type of a primary health care, prevailing in our society. These systems were not killed by our people, but they were smothered out of existence by the surreptitious introduction of so-called modern systems of western medicine! Of course, now, a new respect for traditional systems seems to emerge unobtrusively, and we of the movement have not failed to take cognizance of this trend and push it wholeheartedly to the benefit of the country.

In this context, it would appear that problems of health in rural areas are interrelated to a number of other problems--issues that affect the community as a whole. So in our Sarvadaya Shramadana Movement, we first think of some activity--maybe an access road to the village, maybe a system of irrigation for the village and the rice fields, maybe the sinking of a series of wells or latrines, something that the people feel they badly need--and set about to achieve it. That is the genesis of a Shramadana work camp, where we who have come from a number of other villages will live together, eat together and work together, planning out collectively and arriving at decisions by consensus. Here the people join for a common purpose motivated by the ideals of brotherhood of man, working shoulder to shoulder as equals in a common endeavour, and the end result is a successful development programme fulfilled, while imparting a kind of non-formal education. But we will not fail to get expert advice when deemed necessary. This actually is an effective exercise in reversing the existing bureaucratic process.

During these Shramadana work camps, we meet three times a day in what is called a "Family Gathering." The idea is to foster and cultivate assiduously the spirit of brotherhood in the minds of all the participants. The farmer realizes how much modern knowledge there is, how much he has to learn. The professor realizes how ignorant he is with regard to the life of the village communities. Thereby a two-way communication line is established. In other words, it becomes an educational process for both these groups. This becomes all the more important because, if we are to change the present situation in our communities, we have to think of an integrated approach by which we can bring about a change in the thinking, in the attitudes, in the values, in the change in techniques and in the change in structures.

All these three things have to go together. I will illustrate. About 18 years ago, as a young, very enthusiastic rural worker, I was very keen that every house should have a latrine. So with great difficulty, I persuaded a family to put up a latrine. About a year later, I visited that village again, and I found the same latrine beautifully locked up with a padlock. I went and asked the man what happened: "Are you not using it, or have you kept it very clean?" He said, "Sir, at that time we agreed to put it up because my daughter was expecting to get married, and somebody was coming to see the daughter, but that got postponed. Therefore, we are waiting until that occurs."

Now, what did we do? We gave them that instrument, but we did not change their attitudes. We did nothing else, not even in the area of techniques. Today, it is different. After the initiation stage where we get a majority of the people in the community thinking and planning together and participating in the implementation of those plans, we come to a second stage, where we build up a sort of a social infrastructure in the village.

There are preschool children in the village and they are organized into a group. The school-going children seven to fifteen years of age are organized into another group. The mothers' group, the youth group, out of school youth group, farmers' groups, and what we call others' groups are organized and inspired and trained to service.

So in a village, we get six functional groups organized, not one after the other, but create situations where the groups evolve spontaneously. And then, these groups start discussing. For example, my own nine year old son, from November 5th last year up to November 5th next year, has organized about 300 children of his age. And what do they do? They have distributed an earthenware pot into which children have to put boiled filtered water and drink water only from that.

In other words, in a very functional way, they learn health habits. In this way, not only the adults, not only the professionals, but even very small children, through song and dance and various activities, get organized so that they are able to play their role in building up the health of the community--that is, the total health in all aspects of the group of people living in the village.

From the psychological infrastructure stage, to the social infrastructure, we come to a third stage where we

try to get the best use of modern knowledge by training people from those communities themselves in small institutions we have established. We have 50 small institutions and six large institutions where people are able to come, individually, or as a group, and learn modern applications in the fields of agriculture or health or education. Now these people, when they go back to the villages, generally as teenagers or in their early twenties, there is an input of leadership that is not only an inspired type of leadership from cultural and spiritual values, but also leadership with scientific knowledge added.

These groups of people lay a foundation to activate the economic life of the village. In other words, they go into the areas of irrigation, improved agriculture, small industries, and now, appropriate technologies. And these things need, sometimes, financial input. For this purpose, we have established a Small Revolving Fund from which we help these people to find the necessary capital for them to start their ventures. So, very briefly, starting from the cultural base of a people, we have been able to develop a program whereby nearly 120,000 families have become participants in a self-development program.

Of course, this type of program, in politically highly active societies like ours, is very difficult to develop, because various interest groups would look at this type of program as a threat to their own well-being. In spite of this, we have been able to survive, because we have kept away from any party or ideological, political groups. We allowed this to develop as a movement, where people themselves are the masters of what they decide and implement. Therefore, we are able to survive.

In the Sri Lanka situation, as Dr. Grant very rightly mentioned, we were benefited by very early social welfare measures taken in our country. As early as the late 1940s, there was free distribution of rice which helped the vast majority of people in maintaining a minimum level of nutrition. There were free health services, and there was free education. These three measures taken by respective governments made our task much easier. Subsequently, for the last seven or eight years, there has been much legislation that brought about basic social changes, such as in land reform. These things helped us very much.

But all these things can be meaningful only if we do not lose sight of the importance of the quality of the individual in this whole process of development. In our mad rush to increase productivity, to increase per capita income, we lose sight of many things and, most often, forget the human being.

Now in the context of our world, I believe that there should be more consideration given to the mental health of our people. Today, our society--I can speak for my own Sri Lankan society--would have been much richer if the decision-making groups in our country were healthier their minds, because rash decisions on the part of a mentally sick person holding immense power can bring about unwholesome situations to millions of people.

This is only an introduction. I believe that, during the course of the discussions, I will be able to explain to you in greater detail how, based on cultural and spiritual values, we are attempting to make use of all the available resources in the community--beginning from the village and going up to the world--and trying to better the health of our people.

INQUIRY AND COMMENTARY

DR. NUTE: Our purpose at this time is to give an opportunity for some questions to be raised in plenary session. Let me first ask of Mr. Ariyaratne: Many of us in the room are people who, for better or worse, have authority, and some of us are passionately dedicated, or would like to think we are, to your concept of participation. But we can be self-deceived when we think we are sharing our authority in participative decision-making. How can you tell when a group is really participating and when they are really just saying yes to you because you wear the badge?

MR. ARIYARATNE: The basic question here is that I have been mostly talking about the rural communities. We should, in the rural community itself, be able to isolate a leadership that is not necessarily traditional, but a functional leadership. Now when five or six hundred of us work in a village camp, some of us are always looking for that type of young man who can love his community, who is intelligent, who has the organizational capacity and who has the charm which is necessary to get the community inspired by him. We get maybe 10 to 20 such young men to participate in projects in other parts of the country and in our development education institutions, and they go back into the village. It is through them that the whole movement operates. Therefore, it is not an outside group of people going to a village and trying to get the consensus of the people to do a particular program of work. The program evolves from among themselves. There are quite a large number of young people from the rural areas who come to the center, learn for two weeks to begin with and then go back to try to make the whole community think.

MR. VARKY: Listening to the three speeches, I found there is a significant difference in their approaches to development, particularly between Dr. Grant, on the one hand, and the other two speakers on the other. I feel that the emphasis in Dr. Grant's approach is that a great deal of money and assistance from the developing countries is needed to solve the problems of absolute poverty, low physical well-being, et cetera. The emphasis from the other two speakers is that primary work has to happen locally, internally. Decisions have to be made there and outside help should be a facilitator. I would like your comments on the relative importance of these two inputs, with one further footnote. In the

Chinese development, while they used some Soviet assistance in the beginning, they finally gave up all foreign assistance and developed their country according to entirely indigenous models.

Ms. BARROW: I would like to say that our experience in the Medical Commission is based on what we have actually seen people do for themselves, as, of course, is Mr. Ariyaratne's. We also have seen that massive assistance from outside, unrelated to the people at the basic level, often fails in achieving the primary objectives. There has got to be motivation and knowledge--and I stress knowledge--of what their needs are if we are to involve people in their own care.

I feel, however, that Dr. Grant was helping us to see the need for both outside assistance and local development. My concern is that the overwhelming input of resources does not get channeled into a limited number of hands and does not get spread to the people who most need it. And we have seen this all too often. That is why health care remains dormant in so many countries. The funds for development, the funds that could have motivated people to do something about their other basic needs often did not reach them at their level. They were told what to do, and we all know what happens when we are told, rather than when we are involved.

MR. GRANT: Let me just add to that by saying that it seems to be that both aspects need to move together. The pressures from within to, so to speak, liberate the capacity of the people, and the outside cooperation. What our studies bring out is that there are several potential roles for the outsider. One can say, "Well, why don't all countries do what China's done?" But we do have to remember that for China to get that degree of political restructuring took 20-odd years of civil war and eight years of Japanese occupation to tear up the old system and to lay the basis for a new one. That is a very expensive process.

I will never forget the time I met with the Chinese Communist Chief of Staff in 1946. We were spending an evening together and he said, "I have a terrible confession to make. If we had come to power in 1929, the Chinese Communist Revolution would have failed". Now mind you, this was two years before they actually came to power, but you could see it coming. As I looked at him with a certain amount of surprise, he said, "Well, in 1929, we had only a few thousand cadre. If we had

come to power then, these 2,000 cadre were largely urban born and bred, and we would have ended up managing Shanghai, Nanking, Canton, Peking, Tientsin. We had no knowledge of the people, no confidence in what their potential was. Now, nearly 20 years later, we have learned the potential for people power. We have had to live off the most marginal villages of China and, using the liberation of the most marginal people in China, we are now in the process of conquering the cities of China with all the railroads and the air force. We will have over a hundred thousand cadres when we come in. We have thought this thing through. Now, we can survive."

The real query is, as you look at other countries such as India and Bangladesh, do they have to go through the same pain, or is there some potential through outside collaboration, both in ideas and in resources, to bring about the same transformation.

I argue that most important is that of ideas, and the ideas can come from many sources. But it is quite clear that, if you were to try to do in India what Sri Lanka has done, it would probably require a revolution first, at least in the short-run, because in the Sri Lanka case, the wealth that has been redistributed came from what was initially a rather alien group's assets. They were not part of the society. You try to make that same kind of a taxation program within most developing countries and it just is not feasible. Now, if there is a period of cooperation on these programs, then the national products of the countries go up, and they gradually can build it in.

But at the heart of it, I must say that it seems to me the key in these low income countries is they have to build upon their own indigenous systems. And what Mr. Ariyaratne is saying, and what is so exciting to me about what he is saying, is that, really, you are trying to bring an interaction of outside forces with what already exists in the culture and the village. And this, in my judgment, is a much more healthy pattern of development than an outside displacement of what already exists.

DR. KOCH-WESER: Dr. Grant, in his very excellent and innovative approach, bypassed, or at least did not say very much about, one factor which I consider extremely important. In the discussion, you mentioned it again briefly, and that is the distribution of income within a country, which really to some degree makes the

figures which you gave us of national income, of GNP and of per capita income, to some degree meaningless in comparison to the other things.

Let me give you one example, which you gave yourself, and that is Cuba. If Cuba, before 1960, is not considered a very poor country, it is fallacious, because anyone who visited Cuba in the 1950s could attest to the fact that 90 to 95 percent of the population belonged to the poorest groups in Latin America, and the GNP, the overall income, only was increased by the five percent of the highly privileged people in Havana.

The same situation still prevails today in Brazil. Brazil, which is not among the poorest countries, has clearly the largest number of the very poorest people in Latin America, even today. It is only due to the industrial development in a relatively small part of Brazil that the country has gotten out of the status of one of the poorest countries.

It is interesting that most of the countries, or all of the countries you mentioned as having had success, are countries in which there was a politically enforced egalitarian redistribution of wealth and income. And to income one has to add the food distributed and, also, the health and social services given free to the population. That is really part of the income of the individual, which would be reflected in their income, but not in the income of the overall society.

MR. GRANT: I think we would basically agree with Dr. Koch-Weser's comment that the income distribution is very much a key, because it is the income distribution that provides the money that allows a person to buy the food that is required for good nutrition, or, in most societies, to buy the medical services or other things required for the individual at the bottom to move up.

The only distinction that I intended to make between the low-income countries and, let us say, the middle-income countries (which Cuba belonged to in terms of per capita GNP, even though not distribution-wise), is that in the middle-income countries, there are enough national resources so that one can foresee, over a period of years, how the political pressures within that country are going to force some kind of redistribution.

In other words, in Brazil, for example, I think that over the next 15-20 years, there is going to be enough wealth and activism that internally there are going to be the kinds of responses we have seen in our

own society. The dilemma with the very poorest countries is that the pool of resources is so much smaller that, to get ultimate redistribution, the Chinese model may be the only way, unless there is something else introduced into the scene.

In the case of the Taiwans and South Koreans, there was great fear that arose out of 20 years of civil war, but how do you get that into most countries? And it was for that reason that I brought up the distinction between these two categories of countries. That is why I suggested that significant external cooperation in the poorest countries could make the whole process of transition much easier than if it were not available.

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Can Education Promote Development?

John Simmons*

Can education promote development? Ten years ago most of us would never have thought of asking this question. Today it is the focus of a reappraisal of the past 25 years of development efforts by countries and international agencies. In order to explore this question, I would like to discuss four issues relating to "education for development." They are:

- 1) What are the central problems facing formal and non-formal education in developing countries?
- 2) What are the causes of these problems?
- 3) Are there solutions, and if so, how can they be promoted?
- 4) What are the implications of the problems of formal education for health education and training?

My argument is that education can promote development, but that it depends on how each of us defines development. If you see development as mainly economic growth, then schooling has contributed to it by raising productivity of future workers. But if you define development as improving the welfare of the poorest forty percent of the population, most of whom are either illiterates or school dropouts, then, clearly, schooling has not done much for them. In fact, the data show that investment in education widens the gap between rich and poor in most countries.^{1/}

* I have appreciated the helpful discussions with Philip Brock, John Bryant, Fredrick Golladay, Calo Koch-Weser and William Harben. Neither they nor the World Bank are responsible either for the facts or for the opinions.

The Problems

Let me illustrate the nature of the problems with a few facts from Pakistan. I have chosen Pakistan because other countries in Asia, Africa, and Latin America share many of Pakistan's problems or will soon encounter them.

- 1) Thirteen percent of the labor force is unemployed.
- 2) About one-third of those who are unemployed have completed primary education or more. This amounts to one million adults.
- 3) Illiterate workers find jobs more quickly than the unemployed with education, even though there are three times as many illiterates who are unemployed.
- 4) Forty percent of the vocational school graduates have been unemployed for two to four years after graduation.
- 5) Only half the children of primary school age are actually in school, and seventy percent of those in school will drop out before they complete the fifth and final grade.
- 6) Of the remaining thirty percent who complete primary school, only about one quarter achieve some minimum reading ability. Thus, of the children who start primary school, less than eight percent achieve some minimum reading ability, less than that needed to read and understand, for example, the national newspapers. Since only half of the age cohort actually starts school, we can say that less than four percent of the 12 and 13 year-olds who leave school each year have some kind of literate abilities. With the population growing at three percent a year, the schools are hardly keeping up. Under these conditions, thirty percent of the nation's education budget goes either to producing illiterate primary school leavers, or financing a most expensive and inefficient means of selecting students for more education.
- 7) At the nation's eight universities we find the classic diploma factories. Teachers grade thirty exams an hour and these cover two years of a student's work. While observers agree that student and teacher performance has fallen, the number graduating with highest honors has quadrupled. Four years ago only ten percent graduated with "first divisions," and now more than forty percent do. Professors who try to stop widespread cheating on exams are threatened in class with knives and guns. Some university libraries have added no books in the past several years, even though forty percent of the national

educational budget goes to higher education. Funds have gone instead to more buildings.

8) Nine out of ten graduates in the university courses in pharmacy have taken jobs abroad in the past few years. One reason is that there are not even posts for pharmacists in hospitals or clinics. Those who have gone abroad do not expect to return.

9) In theory, free education in Pakistan is supposed to give equal opportunity to the poor to reach high-paying jobs. The data, however, show that children of upper-income families have four thousand times a greater chance of completing the university than children from the poorest forty percent of the population. Not even geneticist Arthur Jensen would argue that the rich are four thousand times as bright.

10) Although there is only one doctor for 24,200 rural people, the government has pledged that seventy percent of the new MDs can immigrate to those Arab countries which have lent Pakistan money. The remaining thirty percent are not even sufficient to replace the MDs who retire annually.^{2/}

And we can go on. Is Pakistan the extreme example of the educational problem? Unfortunately, not. Once you dig beneath the "official statistics" in many countries, similar problems emerge. For example, countries as economically and educationally different from Pakistan as Brazil, Tunisia and Liberia, which I have studied recently, face similar problems.

We should be cautious not only about official data but also about data coming from the grass roots. Several months ago I was in a Punjabi village where the headmaster assured us that all the school aged boys were in schools. A few minutes later we stopped to take photos and a crowd gathered. My host from the university asked all the school age boys to line up. When he asked which of them were in school, only half raised their hands. So much for statistics, official and otherwise.

The problem just illustrated for Pakistan and common in other countries can be grouped into three categories:

1) Inefficiencies within the schools and the education system, which are measured by high dropout rates, illiterate graduates, and the lack of paper, pencils, textbooks and even teachers in the classrooms;

2) Mismatch between what the schools are producing and what employers, citizens and parents need. These problems are seen among educated unemployed, and parents

and citizens from low income groups who lack information about sanitation and child care;

3) Inequities in distributing both educational opportunities and educational results to the rural and urban poor. The inequities are so great that the data show that continued investment in education is actually widening the gap between rich and poor in most countries.

These problems of inefficiency, mismatch and inequities are so persistent that some observers have begun to ask, "Can education promote development?"

Causes of the Problems

A definition of development might initiate our analysis of the causes of the problems. Some people define development as those efforts to bring major benefits from investment more rapidly to the poor than to the rich. It is a view which gets much rhetoric but little action in most countries. Few ruling elites have any intention of actually pursuing development so defined. They prefer economic growth.

Definitions. Ideally I would define development as (primarily) a redistribution of wealth and income combined with democratically managed political and economic institutions. This combination not only should assure growth but full employment and adequate social services as well.

Before looking at some of the issues, a description of the terms might be useful for putting formal education into its proper perspective. Formal education or schooling, the learning that takes place in schools, mainly trains for urban modern sector jobs.

Most learning, however, takes place outside of school, at home, on the street, and on the job. This is learning by living or learning by doing and can be called informal education. While most educators have forgotten this dimension of learning, common sense and recent research results emphasize its primary importance. The Chinese system of formal education is one of the few which recognizes the importance of informal education during the first ten years of school, and has realized some of its benefits by getting the students into the farms and factories where they may profit by informal learning situations. The Chinese call this the "open door" approach to education. Radcliffe College in the United States, among others, has a summer program where students take jobs or travel and calls it "Education for Action."

Some of the so-called "alternative schools" in the United States and other countries are also experimenting with this approach. Professional training in some disciplines, like medicine, has long recognized the importance of informal on-the-job learning.

Nonformal education is learning that is organized outside of the normal school curriculum, like the training of extension agents in short courses or adult literacy courses taught in the evening. These definitions are not rigorous. For example, some agricultural training colleges give short, six-week courses to farmers.

Finally, there is education for awareness and mobilization, which has its roots both in community development and where workers participate in industrial management. Although Paulo Freire, Saul Alinsky, and Adam Curle have popularized the concept recently, Gandhi and others preceded them. Mao Tse-tung, however, has given the approach its most comprehensive elaboration and application. The approach helps groups of people learn how to study and become aware of the political and economic determinants of their poverty. They then learn to organize and mobilize to improve their circumstances. While it may be essential to any kind of rural transformation, this form of education is noticeably absent from the policies of international agencies and most governments. The reason is simple. When it is effectively launched, it has the effect of challenging the political and economic status quo.

These four categories of education lead us to the question, "education for whom?" Because this issue is not raised frequently enough by either planners or parents the purpose of the education system is not kept firmly enough in mind. This deficiency is a major cause of the educational problems.

Education for Whom? During the last ten years, many observers have seen that formal education has not met most of the poor's needs. Formal education provided training for urban white collar jobs, while most jobs, and the major development problems, were manual and in rural areas. Second, the students from poor families were dropping out of school to an increasing extent as they would go up the hierarchy from the first year of secondary school to the last year of the university. In fact, the most important thing learned by the poor who have been fortunate enough even to complete primary school was that they did not have the ability to go to secondary school, and, in fact, many had failed the entrance

examinations. And there had been little or no way for them to redress the situation. As Gunnar Myrdal has said: "The poor are not educated to see their interests, and they are not organized to fight for their interests." They lack education for awareness and organization.

In summary, we can answer the question of education for whom in two ways. The children of the middle and upper classes have gotten the most formal education. Most of the children of the poor have learned they do not have the ability and, therefore, do not deserve more than the opportunity to take, and fail, the school examinations. The poor accept their fate as human failures.

Political and Economic Causes. To understand the forces behind educational problems, we need to consider the conflict among different interest groups over what happens in the schools and who benefits from the education investment. In most cases it is the liberal educator from outside who lines up against a most unusual coalition of rich and poor parents, students and educators. As long as entry into the urban, well-paying jobs is determined by the number of school certificates a candidate has, both rich and poor alike can see the benefits of academic educations.

The two countries which come the closest to the World Bank's description of the ideal education system for a developing country, especially the poorer ones, are China and Cuba.³ What a paradox for liberal educators! Two countries whose political systems are anathema to most liberals because of their communist rule and absence of civil rights are implementing the liberal educator's model. Both are revolutionary, socialist governments with increasingly strong democratic processes.

Other countries, such as Tanzania, may have a system that looks good on paper, but as President Nyerere recently emphasized, the implementation appears to have bogged down. Somalia, Zambia, Guyana, Jamaica, Sri Lanka are all making progress shaping the old education system to the new development needs but have not yet developed either a strategy or sufficient implementation. They are socialist but non-revolutionary. These examples lend support to Mao's theory that such a transformation cannot take place without the effort and struggle of the mass of the population.

A major reason why educational reforms recommended by most experts have not taken place in most countries

is that the elite who hold political power see such reforms as a threat to the status quo. Let us take the problems in Pakistan to illustrate the point. Given the objectives of Prime Minister Bhutto's People's Party, it is a country in a fragile transition to a redistribution of wealth and socialized production and distribution; industry has been nationalized, but not much land reform has been carried out. Influence of the private sector has declined, but corruption of civil servants has increased. Wage differentials are being narrowed and some efforts made to reach the rural poor. The approach to nation building is increasingly democratic and participatory. Given these favorable objectives and results, what can Pakistan do?

Solutions: What Can Pakistan Do?

1) What action could be taken by such a government for the one million educated who are now unemployed, plus the next million who will soon suffer the same fate? If it reduced the number of new graduates from the high schools and universities, the middle and upper class, which put the government in power, would withdraw their support. These groups want more school places for their children, not less. If the government required employers to hire the one million educated unemployed, thus increasing by five percent the number of their employees, employers would complain of higher costs and lower profits. They might threaten to withdraw their political support. Finally, if the educated unemployed were hired, then the two million who are unemployed but uneducated might take to the streets to demand equal treatment with the educated.

2) Can the mismatch in future education be reduced? There are possibilities in the reform of technical training as seen in Brazil and Singapore, where institutions are managed by employers, craftsmen, and educators. This management approach permits the close supervision of both quality and quantity. Pakistani officials are studying this approach.

3) What action could the government take to assure that more than fifteen out of every one hundred school-aged children will complete the tenth grade, which is considered by the government to be a minimum to acquire and retain basic skills? Lack of funds and lack of local responsibility for the schools are the two major problems. Although successive governments have promised universal

primary education, no one will predict when it will happen. While the solutions are at hand, they all upset the status quo.

For example, forty percent of the educational capital budget goes for university training, some of which contributes to the brain drain and educated unemployment. Because primary school costs per student are less than one percent of the costs of a university student, shifting just one-half of the university budget would pay for all primary school aged children to attend.

For example, the provincial administration now tries to run the schools, but cannot even assure that the teachers will show up for class. Giving the villages and neighborhoods some control over their schools, including the right to select the teachers and raise the money to pay for them, would go a long way to providing basic schooling and improving the quality of it. This solution also upsets the status quo. Three levels of provincial administration would be without jobs. The central government would lose some control over an essential rural institution. Local responsibility would also mean that the peasants would develop self-confidence in solving their problems and running their own affairs. A new confidence would threaten the landlords, the present rural power elite. The experience in other countries shows that the peasants might start to demand more autonomy in other areas and even challenge the government's right to allocate water, collect taxes and provide police protection (and informers).

4) What can the government do to eliminate a dual education system that trains some for mental labor and others for manual labor? Realistically in my view, they can do nothing now. If my analysis is correct, then the government has to continue a two-fold approach--decreasing slowly the economic power of the present land-owning elite, while decentralizing political power to reduce the support for a dual educational system.

These examples reveal the forces of the political economy that prevent educational reforms from taking place. The landlords don't want peasants to become independent. The educators don't want to lower academic standards, or to lose their jobs. The middle and upper class parents don't want to open more primary schools for the rural poor if it means losing places for their children at high school and the university. And the government, at least in this period of transition to socialism, does not want to lose the support of any of

these groups. Clearly, whoever holds economic and political power controls the schools.

"Expert" Solutions. Recently the outside experts have come to surprising agreement about the relevance of nonformal education for poor countries. They have urged the expansion of nonformal education to reduce the mismatch between educational supply and employment demand. And most of them have agreed that the expansion of formal education at the secondary and higher level should be stabilized at present rates of enrollment growth, or slowly reduced.

- 1) Three years ago World Bank specialists stated that formal "educational systems have been irrelevant to the needs of developing countries for the past two decades," 4/;
- 2) The greatest economic need they perceived was for training specialists in all aspects of rural development or self employment;
- 3) The Bank then urged a program of nonformal education and a vocationalization of primary education.

Other observers, however, have not been so enthusiastic about replacing formal education with a little — tried substitute. Ministers of education have been noticeably cool to such suggestions. Privately, they are outraged. They have spent the last twenty years working hard to increase the number of children in school, at great expense to the country and often with Bank assistance, and now they are told this may be the wrong emphasis.

The difference of opinion over whether formal education is relevant poses a major dilemma. If more practical education is so good for economic growth, why are most of the educators so opposed? The short answer is that nonformal education will cut into the funds allocated for formal education, which is more prestigious and in greater demand by the middle and upper classes. But there is another, equally serious problem.

Expansion of nonformal education will reinforce a dual system of education,⁵ with one side of the system training for manual labor jobs and the other for mental labor; one side for mainly rural employment, the other for urban. The dual system will reinforce the social and political status quo, not promote the poor or their interests. Thus, unwittingly, the nonformal strategy works against the poor.

Let me be more explicit. The opposition among educators and middle class parents to nonformal education is impressive. They feel that it is not relevant to their needs. As the middle class expands in any country, it wants its children to enjoy the same white collar occupations that they have enjoyed. As Philip Foster wrote over eleven years ago, secondary and university training may be academic, but it is also vocational for the middle and upper class.⁶ This means that these parents want more places at the secondary schools and universities, not more places in vocational training. Teachers see programs like school gardens or first aid courses that are economically relevant taking time away from math and French. It is performance in math and French that will determine entry into the secondary school and university. Thus, educators see the economically relevant courses as being educationally irrelevant. They contribute to a lowering of academic standards by directing teachers' efforts from academic courses, and they vigorously oppose them.

Lower income parents also object to a dual system that streams their children into blue collar jobs while still in primary school. The Moroccan government tried to eliminate the French language from the rural primary schools because it was not essential to rural learning needs. Parents rioted, accusing the government of trying to exclude their children from government jobs that required French. Since the poor had been convinced that education would promote social mobility, they viewed the government attempt to eliminate French as discrimination against them and impeding their ability to rise into high income, secure and prestigious jobs.

In summary, I have tried to show that formal and nonformal education tend to support the status quo of the urban elite. I have also suggested that an impressive array of forces is drawn up against the new relevant, nonformal education urged by outside experts. Repeated attempts at reform have failed.⁷ It seems to be true that the existing systems of formal education have been most relevant to the needs of the ruling elites in the nonrevolutionary developing countries.

Is there no hope? But there is still hope, and Pakistan has experiences that might benefit other countries. The government is putting more and more faith in the people in the villages and neighborhoods to study and solve their own problems. A project in one province has 80 villages selecting their own teachers,

managing their school affairs, and maintaining the buildings. When faced with the lack of space, several village school councils decided to use the mosque, which was empty most of the day. The council has employed students to clean the school and maintain the grounds. Teacher attendance has improved as villagers, not distant supervisors, are responsible for the selection of teachers and their attendance. Significantly, the government has created a climate to encourage self-help efforts by stressing their motto, "power to the people."

Another project for 400 villages across the country is encouraging village planning and management of community development efforts, including both health and education. Initiated with the Ministry of Education and the cooperation of the U.S. Agency for International Development, the government is supplying partial finance of the improvements. It is still too early to say whether these projects will succeed after the initial enthusiasm and government attention.

In other countries, education programs are emerging that benefit the poor. While the most dramatic examples are national programs in China and Cuba, there are pilot projects in a number of countries. For example, there are programs in Sri Lanka and in Ecuador that have mobilized peasant energies for self-help. The failure of efforts in the northeast of Brazil should remind us of the political constraints. These projects will not be expanded until the political and economic power shifts to a more democratically selected leadership.

Education in these countries creates an awareness among adults that they have more control over their lives and their surroundings than they have had in the past. They learn that, with cooperation and organization, they can build roads and bridges and grow more food. They learn that they can become landowners, rather than tenants or laborers, even though the land reforms are show pieces rather than nationwide. Through cooperative saving they reduce their dependence on money lenders. And when these things happen to them, they have a pride and self-confidence in their achievements that no one could have given them. Their passiveness has been transformed into activism. They have exchanged dependence on the government, on the landlord, on the money lender, for a self-reliance, cooperation and independence that can only be gained through self-study, struggle and transformation. Some observers would say that this is real education for development, for without individual

political awareness and behavioral change, there cannot be development of the great mass of the people.

Increasing Trust and Participation. How important is increasing the participation of local people in the planning and management of investments that affect them? World Bank policy in rural development and in health and education programs confirms that it is an important, if not a necessary condition, for the success of Bank projects.

If participation is so important, why isn't it encouraged more widely? Quite simply, most national leaders do not trust peasants and laborers to make such decisions. An education official once asked me, "Do you expect illiterate peasants to know how to supervise village schools?" My reply was that they might do a better job at seeing that the teachers show up for work, and that their children have books and paper.

Another reason is that most of the staff of the international agencies are not familiar with the established tools of participatory planning and management. They also fear that these techniques may create uncontrollable conflicts, a fear that can now be minimized by recent approaches.⁸

Could we build an education and training strategy around participation? It would have to concentrate on the processes within the individual countries, not on the imported models. It should more accurately assess the needs of the participants and their ability to manage their own problems than present approaches do. If it accomplished these objectives, it could be a major step in encouraging low income groups to take more responsibility for their own affairs, thus building self-reliance and confidence.

How do such participation schemes get initiated? We should remember that the barefoot doctor did not emerge fully developed from a session in Peking of the Central Committee of the Communist Party. It was the result of a process of study and discussion of daily health problems among literally several million study groups across China of 10 families or workers in each group. The model was publicized by the People's Daily and the radio, but the leadership did not require that such a model be used. Rather, they asked the local groups to study the model and see if it fit their needs. Mao, like Ghandi, Freire, Curle, and Alinsky, understood the process of collective and individual study, struggle, and transformation required to convert passive and

oppressed peasants into active and responsible citizens. The process itself generates dynamism and self-reliance.

In summary, the education gained by broadening participation in decision-making can have a positive effect on people's welfare. Even countries that are authoritarian and centralized may accept pilot projects with these notions. In fact, from my reading and discussion, I am not even sure that it would be possible to introduce successful community health without effective community participation. Pilot projects that now may appear successful without it should be evaluated several years after the outside support is withdrawn.

Implications for Health Education and Training.

What are the implications of my analysis for health education and training? Let us assume that appropriate health training for most physicians in a developing country should address environmental and preventive measures aimed at controlling the incidence of disease. It should be combined with the use of standard drugs and simple procedures for treating illness. The aim would be to promote health from within the community on a continuing basis rather than from outside on a crisis basis. Let us look briefly at examples of health training in Tanzania and China.

At the University of Dar es Salaam, students follow a four-year premedical undergraduate course after completing twelve years of basic education. They are now required to work for a year between high school and college. Students with the best test scores then begin four-year medical school. Several years ago an essential part of the course was a six-months' residency at a rural hospital. Because the students and faculty disliked the rural experience so much, the rural work has been cut to three weeks. Ninety percent of the graduates will work in Dar es Salaam. Surprisingly, they receive less training in epidemiology, the role of paramedics and community health than physicians in the U.S. Although the physicians will work mainly through auxiliaries in practice, they get little experience with them during their training. The country is rapidly developing a dual health care delivery system with little interaction--physicians and urban hospitals on the one side and auxiliaries and rural clinics on the other. A major result is to divorce an increasing number of physicians from the problems of the field. This dual health care development parallels the dual education system.

In contrast to Tanzania, Chinese students enter the University of Wuhan medical school with only ten years of basic education. This education is then followed by two years or more working on a farm or in a factory. They have been selected by their work teams on a basis of their intellectual ability and record of service to others. They are approved by the medical faculty. Some of the students are barefoot doctors and have less than ten years of basic education. They have had no premedical training, but go directly into their three-year medicine course. This is not as unusual as it may seem. Until the early 1930s, medical school training followed directly after high school in the United States.

In China, the students and faculty spend two months during each year of their training in rural clinics and hospitals; then they spend their entire third and last year in a rural hospital. Eighty percent of the graduates will go to the countryside. Ten percent will practice in the city and ten will go on for further training in specialties and research. A Chinese professor trained in the United States recently described to me the Wuhan approach to training physicians. He emphasized that the Wuhan-trained physician graduates were "much better able to serve the needs of the people than with the old training styled after U.S. models."⁹

What is the major difference between the two groups of medical faculty and students in Tanzania and China? I think it boils down to motivation and awareness of the real needs of the majority of the population. The Chinese are more motivated to serve the rural poor and put the more selfish interests of a comfortable urban life behind them than their counterparts in Tanzania. A second difference is the environment within which the motivated person can operate. The leadership of the Communist Party has provided an environment which supports devotion to service and decries the pursuit of selfish interests, something the Chinese call "privatism." The reward system is an essential part of that environment; promotion is based on peer evaluation and the criterion is the level of service to the people.

Some of the faculty at Dar as well as in Wuhan have been trained in the United States. The Chinese have recognized that the skills required for cardiology are no more important than those required for early detection of schistosomiasis--in fact, probably less so. The Tanzanians, who face medical problems similar to the

Chinese, have not. The Chinese do not measure their success against western standards for treating degenerative disease. The Tanzanian physicians do.¹⁰

Our comparison of China and Tanzania needs to be put into some perspective. While Tanzania's medical education system may not be as adapted to the needs of the people as the system in China, they have had less time and different historical circumstances. Tanzania is, in fact, more advanced than most other African countries in trying to solve these problems.

Can Education Promote Development?

The thesis of my discussion has been that the answer to the question depends on how each of us defines development. To clarify the questions I have posed, I have found it useful to keep in mind three simple questions.

- 1) Who is going to benefit from the development effort?
- 2) Does the education system provide what the people need to learn?
- 3) If it does not provide what is needed, then what are the reasons? And in what ways may the system be changed?

These three questions can provide a starting point for those of you who would like to look more closely at health education and training than I have done today.

I believe you will find sufficient evidence to argue that the problems that affect formal education also affect health education and training. You may find that:

1) Educators and doctors are frequently at odds over what is relevant information in the training of physicians for rural service. How much organic chemistry is needed to be a competent rural practitioner or even an internist in Washington?

2) Health education may be virtually absent from primary school curricula or in the services of rural clinics. If better health is so essential to rural welfare, why is health education missing? Primary school educators may complain that the curriculum is already overburdened with subjects that are "required" for the exams into secondary school. Efforts to change the requirements have failed. Why are health education programs either absent from the radio, or poorly produced? You may find that the leadership of the media, mirroring the national leadership, does not feel that health is a relevant priority.

3) Dualism is embedded in the training system. Paramedics and nurses are effectively barred from becoming doctors. Their on-the-job experience does not count. Career incentives are removed and the job becomes a dead end. Some countries have made important efforts with paramedical training that should improve the effectiveness of community health services in the pilot communities. Whether these efforts can be sustained after the special circumstances of the pilot experience are withdrawn is a central issue.

What I have been arguing this morning is that while formal education functions rather well in meeting the needs of the middle and upper income groups that prefer economic growth, it is rarely a strategy for the redistribution of wealth that will benefit the poor.¹¹ What appear to us as problems of the education system are seen very differently by the elite of a country. Although rioting university students demanding white collar jobs can be a threat to political stability, the alternative to them is far worse. Ask any landlord in Brazil or Chile who has watched Freire-inspired peasants take over his land. The existing dual system of formal education in most countries is essential to political stability and the oppression of the poor.

What I have learned about education may suggest some hypotheses for you to test on health. More than eighty developing countries have been independent as long as China, or almost as long, but how many of them have developed such comprehensive approaches to community health? As far as I have been able to determine, some countries only have pilot projects, often supported by massive outside funds and expertise. Other countries may have introduced the barefoot doctor concept nationwide, like Iran, but evaluations are not yet available to show how the system is working. If the experience of other social sectors like village development and housing is any guide, the chances for effective community health may be limited. A more progressive political environment may be needed before more progress can be made. These facts urge caution, however, not despair. They imply a strategy of action for those who like working on the impossible problems.

First, the strategy assumes that effective education and training has to be planned and managed in a cooperative and participatory way. The teachers as well as the learners have to be consulted. It seems obvious. And yet to take one example---a major educational reform in

Ethiopia just three years ago, with the assistance of more than five international agencies and extensive participation on the part of Ethiopian elite, omitted the teachers from the discussions. When the teachers learned that they were to be asked to take a cut in salary as part of the reform package, they went on strike. And this strike helped bring down the Emperor.

Second, the strategy recognizes that there are three kinds of countries in different stages of development:

1) Those countries that are already using the approach and could teach others a good deal. There is valuable experience in Europe, North America and Japan, as well as China.

2) Those countries that are in transition from authoritarian and centralized control to more decentralized and democratic management of their political and economic institutions. Pakistan, India, Somalia, Tanzania and El Salvador should be included in such a list.

3) Some countries are mainly hostile to any efforts to decentralize power or to upset the status quo of the rural power elite. But, even in some of these countries, it may be possible to introduce participatory processes that can convince the establishment that it is not threatened, at least not immediately.

Finally, planning and implementing such a strategy may require technical skills and ideological sympathy that many experts may not yet have.

- 1/ See, for example, Asim Dasgupta, "Education and Income Distribution" (Washington, D.C., World Bank, 1974).
- 2/ In 1970 there were 14,061 MDs, 4,543 nurses and 2,707 health aides, but all of these were not working in the country. About 700 new MDs graduate each year of which 500 go to the Middle East alone. The doctor-nurse ratio is about three doctors for one nurse instead of 1 to 3, a more normal standard. Background Paper on Health (Washington, D.C.: World Bank, October 1974, appendix tables 15, 16 and 20).
- 3/ See the Education Sector Working Paper (Washington, D.C. World Bank, 1974).
- 4/ World Bank, Education Sector Working Paper (Washington, D.C., 1974, p. 3).
- 5/ The Bank's official view is that dualism can be "minimized or eliminated" but does not propose a coherent strategy for doing so. See the Education Sector Working Paper (Washington, D.C.: 1974, p. 31 and 32).

- 6/ "Vocational School Fallacy," in Arnold Anderson and Mary Jean Bowman, eds. Education and Economic Development (Chicago: Aldine, 1966).
- 7/ John Simmons, Lessons from Educational Reform (Washington, D.C.: World Bank, forthcoming).
- 8/ John Simmons, "Outline for a Study on Participatory Planning and Management," (World Bank, March 31, 1977).
- 9/ John and Adele Simmons, "Notes on Chinese," (Washington, D.C., World Bank, October 1976).
- 10/ For more information on Health Education and Training, see Kenneth Newell, who spoke to the Association last year. Health by the People (Geneva: World Health Organization, 1973.) and Shahid Akhtar, Low Cost Rural Health Care and Health Manpower Training. (Ottawa: IDRC, 2 volumes, 1976.)
- 11/ For more on this issue see Paul Streeton and S. J. Burki, "Basic Needs: an Issues Paper," (Washington, D.C.: World Bank, March 1977).

Food and Health

Joe D. Wray

Health, when it is defined as physical, social, and mental well being, is surely the product of a great many interacting factors. If there is anything that should be under man's control, however, that is essential not only to survival but to health as defined above, then surely it is food. The writings of ancient scholars and physicians, as well as what we know of common folk knowledge, suggest that man has known that food is important to health since the beginning of time. Yet, modern medical science has produced an interesting transformation. Rather than stressing the importance of food and health, the tendency has been to shift the focus to nutrition and disease.

Thus, 25 or 30 years ago, when physicians and others from affluent Western countries began to appreciate the fact that there was severe malnutrition among millions of people, especially children, in poor countries, we were concerned more with disease than health. Given the severity of malnutrition in many of those people, then and until this day, it was indeed reasonable to think in terms of disease. Those of us who are the products of the medical education of that period had learned little about food and health and a lot about nutrition and disease. We knew something of the biochemistry and physiology of nutrition and the usual textbook versions of the classical deficiency diseases. As knowledge of the situation in poor countries increased in the early 1950s, we learned of course about marasmus and kwashiorkor, which Cicely Williams had identified 20 years earlier (1933, 1953). Since the early 1950s, along with an explosion of knowledge concerning the biochemical and physiologic details of nutrition, we have learned a great deal about the impact of bad nutrition on such things as susceptibility

to infection and on the growth and development of children. But above all, perhaps, we have come to appreciate how widespread the problem is: we now talk about the fact that, the world around, there are hundreds of millions of people who are hungry, day in and day out. For lack of food their health suffers, often seriously.

Today, we appreciate more clearly the relationship between food and health, yet we are compelled to define the problem in terms of disease. In fact, our best indicators of the prevalence and severity of malnutrition are death rates--that terminal endpoint of disease. That this should be the case is a reflection of our steadily increasing understanding of the interactions between nutrition and infection and our steadily improving grasp of the simple fact that well nourished people are much less likely to die than those who are poorly nourished. In fact, in order to appreciate where we stand today, it is useful to review some of the major concepts of food and health that have emerged in the last 25 years or so.

Food and health in history

The "population explosion" is now a well-known phenomenon and has often dominated conferences like this one. Demographers and others who have studied the available historical data in order to understand how population growth occurs have, in fact, shed some interesting light on the relationships between food and health. The data show clearly that crude death rates began to fall, significantly, almost 200 years ago in such countries as Sweden. Birth rates remained relatively high for perhaps another 50 years and then they too began to fall. This pattern of falling death rates, followed by falling birth rates has been repeated in all "developed countries." It is, of course, the fact that death rates fall below birth rates that produces the population of growth, and the fact that the gap is wider in the developing countries today means that growth rates are relatively much more rapid in those countries. What starts the process? What makes death rates fall more rapidly than birth rates? Our tendency in recent years has been to attribute falling death rates to better medical care, to "modern medical science," or to preventive and public health measures.

McKeown and his colleagues, however, have examined the European data and have raised some serious doubts (1972). Figure 1 shows crude birth and death rates in

Sweden from the mid-18th century up to the mid-20th century. They pointed out that not until relatively late in this period did "modern medicine" have sufficient knowledge or techniques to account for most of the falling death rates. They also noted that most of the decrease in deaths came about because there was a steadily decreasing number of deaths from infectious diseases. Figure 2, for example, shows the decline in death rates in England and Wales during the last half of the 19th century. There we can see that the death rate fell each decade and that all of that fall occurred because there were fewer deaths from infectious diseases. After analyzing carefully other events that were occurring in such countries, they were forced to the conclusion that the most likely cause of a decrease in death rates was better nutrition. Throughout the period in question, the evidence suggests that the food supply was improving slowly both in quality and quantity, and at the same time the food distribution systems were improving.

Kass, among others, has examined the historical data for death rates from various diseases. Figures 3, 4, 5, and 6 show the death rates in England and Wales from diphtheria, measles, whooping cough, and tuberculosis in the last century. It is clear, in all of these cases, that death rates have fallen to but a fraction of their former levels, before we had available either effective preventive or effective curative measures. Many things were happening, of course, during the period in which these declines occurred. Many of us believe, however, that probably the single most important change was a steadily improving diet, which produced a better nutritional state in the populations at risk, and that, in turn, increased their resistance to infection. Much more direct evidence of this is apparent if we look at the evidence concerning food and health in childhood.

Food and health at birth

Food and health are related even before birth. For centuries it was assumed that the growing fetus is nourished at the expense of the mother's own tissues, if necessary. Thus, in populations where birth weights are low we attributed this to racial differences. In the last 10 years we have learned that matters are not so simple. We know now that:

- The mother's own childhood nutrition, as reflected by her height, affects birth weights.

- The mother's diet during pregnancy affects birth weight.
- In poverty-stricken cultures, birth weights go up when the mother's diet is improved.
- When birth weights increase, survival rates increase.

Figure 7, drawn from data presented by Serrano and Puffer (1974) shows the proportion of infants in various weight groups in the U.S. and three Latin American sites. The differences are not trivial. Leaving aside the mortality among so-called prematures, weighing less than 2500 grams, we know that death rates are twice as high in infants weighing between 2500 g. and 3000 g. as they are in infants weighing 3000 g. to 3500 g.—even in the U.S. There is also evidence, now, that in poor communities, the percentage of babies in that deficient weight range is also twice as high as it is in affluent countries—twice as many babies at twice the risk of mortality. And we know how to prevent it.

Food and health in infancy

Today's concerns about food and health in infancy are not the result of new knowledge but rather the rediscovery of old knowledge—things our forefathers and mothers knew well. Having devoted massive efforts and substantial investments in the first half of this century to the development and commercial exploitation of safe, artificial alternatives to breast-feeding, we discovered after another 20 years or so that these alternatives are not so safe—in fact, they are often lethal—in poor countries today.

This was well known a hundred years ago. Table I shows the results of a study carried out in England at the turn of the century. The death rates among artificially fed babies were three times as high as those in breast-fed babies. The investigator, Dr. Howarth of Derby, went a step further and analyzed mortality by type of artificial feeding, as shown in Table II, and found, then, as we know to be the case now, that sweetened condensed milk is the most lethal. What these data showed, and Howarth noted, is that it was not merely contamination of artificial feeds, but qualitative, nutritional deficiencies that cause increased mortality. Thirty years later, the mortality differences shown in Table III were observed in Chicago: bottle-feeding was clearly disadvantageous if you

wanted your child to survive, much less be healthy (Grulee, et al., 1934). Figure 8 shows the trends in mortality among breast- and bottle-fed babies in the West over the last century.

Comparable evidence from developing countries is limited. Figure 9 shows the prevalence of malnutrition in rural Thai villages where breast-feeding is almost universal and successful. Malnutrition in the first year of life is relatively limited. In Bangkok slums, where mothers must work and bottle-feeding is common, the devastating effects in the first year of life are seen (Khanjanasthiti & Wray, 1974). Further evidence is shown in Figure 10 showing comparative mortality among breast-fed, partially breast-fed and bottle-fed infants in rural Chile during the first year of life. Finally, Table IV shows the percentage of deaths from diarrhoeal diseases in the second six months of life among infants breast-fed less than and more than six months in several places in the Western Hemisphere: bottle-fed babies are 14 times more likely to die, for example, in El Salvador.

Food and health in early childhood

A study of mortality in the first five years of life in the Western Hemisphere, carried out a few years ago by the Pan American Health Organization (Puffer & Serrano, 1973), sheds some light on the importance of food to the health of pre-school children. The impact of nutrition, both as an associated and as an underlying cause of mortality, was examined carefully. Figure 11 shows the proportion of all deaths during the first five years of life in which malnutrition was either an associated or primary cause of death. The figure speaks for itself. Figure 12 shows the proportion of deaths from specific causes in several Latin American sites in which malnutrition was an important associated cause of death. As is clear, malnutrition figured highly in a number of important diseases. Figure 13 shows the number of deaths from several causes which actually occurred in Latin America, compared with the number of deaths from those causes which would have been expected if the death rates of the U.S. had prevailed (PAHO, 1973). The evidence surely suggests that the most important reason for those excesses is malnutrition.

Why the lack of food?

The evidence reviewed shows painfully clear that food is not merely important for health, it is important for survival. Why the lack of food? Why is malnutrition so widespread? The reasons are so complex, so numerous, so interrelated that systems analysts have a field day with diagrams full of boxes connected by criss-crossing arrows. Surely a holistic approach is necessary, and the interrelatedness of factors affecting health is, of course, the theme of this conference. The temptation to fall back on simpler models, however, is great:

The Malthusian model. From the beginning of widespread awareness of population growth as a problem, we have thought about the "race between people and food." Although food production is increasing in the developing countries, population growth is such that per capita food production increases only slightly, if at all.

Because of such concerns, there have been massive investments both in attempts to control population growth and also to improve food production. Both, in fact, have been somewhat successful—more so in some places than in others—but lack of food remains a problem for millions of people.

The maldistribution model. A more recent concern has come about as we recognized that people in affluent countries consume grossly disproportionate shares of the world's resources, including food. In the case of food, as income rises, cereal consumption increases rapidly to levels almost 10 times higher than that in poor countries, but the consumption is indirect in the form of meat.

The poverty model. While few people doubt the importance of maldistribution, or will defend the continuation of such wasteful patterns of consumption, we now know that maldistribution alone does not explain the problem. We know this because we are increasingly aware of the fact that most countries have the resources needed to feed everyone, but millions remain hungry; millions, in fact, are hungry in countries where at least minimally adequate food is available.

Why is this so? No matter how complex or simple the model we adopt, money enters somewhere because hundreds of millions of people, whether in affluent or poor countries, must buy their food, and many simply cannot for lack of money. Poverty, then, seems to be the root problem. But here, too, there is danger of oversimplification. First of all, as Reutlinger and

Selowsky point out in the World Bank publication Malnutrition and Poverty (1976), malnutrition may get worse in the normal course of development. Only policies deliberately designed to reallocate food or income can eliminate under-nutrition.

Furthermore, there are several kinds of poverty, and the food needs of the different groups must be met differently:

- There are the environmentally poor--the millions who scratch out a subsistence living from barren, rocky, or dry land. They need help to improve their yields--as the Chinese in such conditions seem to have done.
- There are the urban poor. They need income-producing jobs as well as nutritionally adequate food at prices they can afford.
- There are the poor rural cash crop laborers. They need either access to land to produce their own food or more income and good food at low prices.
- There are the landless poor, who live in basically subsistence or food growing communities, but lack either land or jobs. Their lot is often worse than that of the poor urban slum-dweller. These people, as Lappé and Collins point out in their recent book, Food First!, need a chance to participate productively.

Money isn't everything

Poverty, at the family level, is surely at the root of the food problems of millions of people. Yet, there is now ample evidence that countries with low per capita GNPs can provide enough food for the vast majority of their people to make a significant difference in their health.

To cite an informative, if slightly unfair, example: The U.S., in 1950, was spending \$75 per person per year on health care alone; twenty-five years later we were spending well over \$500 per person per year (Worthington, 1975). In that interval, life expectancy at birth increased from around 66 years for men and 72 for women to under 69 for men to over 76 for women--an overall gain of about three years (HEW/PHS, 1975).

During that same interval in Sri Lanka, life expectancy at birth increased from 43 years to 68 years--a gain of 25 years. Simultaneously, the literacy rate rose from

30 to 75 percent; the crude death rate fell to 6.3 and the birth rate to 28.6, both of these among the lowest rates in Southeast Asia (Grant, 1976).

Did the Senhalese outspend us to gain 25 years of life expectancy while we were gaining three? Hardly! Their total per capita GNP is probably less than one-fourth of what we spend on health care alone. Instead, for all their social services--including education and health--they were able to spend only \$12-\$13 per person per year until the recent increases in grain prices forced it up to \$14 or \$15.

What is relevant here is that a major component of their social service "package" has been a free rice ration, averaging over two pounds per person per week; not a lot to an overfed Westerner, but capable of making a tremendous difference to the very poor (and, in fact, effectively increasing the income of the poorest of the farmers by around 50 percent!)

Food, health, and reallocation

Things can and indeed have been done either to provide more food to the poor, as was the case in Sri Lanka, or to make it possible for them to obtain it. James Grant pointed out in his "Pugwash Conference" paper last year that several poor or moderately poor countries have made remarkable strides. John Ratcliffe has described a similar process in Kerala State (1977). With a per capita income below that for the rest of India, Kerala has crude death rates and infant mortality rates that are less than half the rates for the rest of India, and the birth rate is about one-fourth lower. In Kerala, as in Sri Lanka and the other examples cited by Grant, the essential feature seems to be redistribution. Even with extremely limited resources, equitable distribution, to provide the poor with an adequate share, means more food and better health.

Can it be done?

Whatever the term used--reallocation, redistribution, equitable distribution--the process requires that some people give up certain luxuries if others are to gain the minimal essentials. History offers us little reason for optimism. The fact is that as long as individuals, or nations, assume that they have a right to consume a disproportionate share of the available resources, others, many others, will be deprived. This is true whether we

think of inter-national or intra-national consumption. As Gandhi put it, "Nature provides enough for need, but not for greed."

What is required for equitable distribution is either revolution or generosity and compassion on an historically unprecedented scale. How much are we, here, willing to give up? Two and a half years ago, Dr. Halfdan Mahler, Director General of the WHO, spoke in this city at a conference at PAHO. In his speech he said, "Most of today's international conferences are, in my humble opinion, living evidence of this very unwillingness of man to meet the challenge for survival through compassion."

Is this international conference living evidence that he was right? It is difficult to imagine that anyone here is lacking in compassion; harder still to believe that anyone here would consciously deprive another human being of the food he needs. Yet, I submit, we have an obligation to ask ourselves just what it is, exactly, that meetings like this contribute to meeting the needs of the millions around the world for whom we profess to feel compassion. It's always nice, of course, to see old friends on occasions like this. It is not unreasonable to assume that some fraction of those gathered here will leave with some new ideas about what might or should be done. It is not inconceivable, in fact, that some fraction of that fraction will actually go out and do something that they learned here, or see problems differently, perhaps function more effectively.

But is that enough? How cost-effective are these meetings? To return to Dr. Mahler's thought, can we prove to our individual or collective satisfaction that this conference is not "living evidence of this very unwillingness of man to meet the challenge of survival through compassion"? I personally have no glib answers to these questions; but I worry.

TABLE I. Mortality rates per thousand live births, by diagnosis, Derby, England, 1900-1903

Disease	Mortality rates per thousand		
	"Breast-fed"	"Mixed"	"Hand-fed"
Bronchitis and pneumonia	14.4	12.6	26.5
Diarrhoea and zymotic enteritis	10.0	25.1	57.9
Marasmus, atrophy and debility	12.6	18.9	39.4
Convulsions	15.0	20.9	25.9
All other diseases	18.4	21.7	48.3
Total	69.8	98.7	197.5

Source: Howarth (1905)

TABLE II. Number of infants, deaths, and mortality rates per thousand, by type of feeding, Derby, England, 1900-1903.

Type of feeding	Number fed	Deaths	Rate/1000
Breast milk	5278	368	69.8
"Hand-fed", total	1626	321	197.5
Diluted cow's milk only	895	158	177
Condensed milk only	149	38	255
"Bread, rusks, oatmeal, arrowroot, cornflour, sago, tapioca, and mixed foods"	159	40	252
"Patent foods"	482	85	202

Source: Howarth (1905)

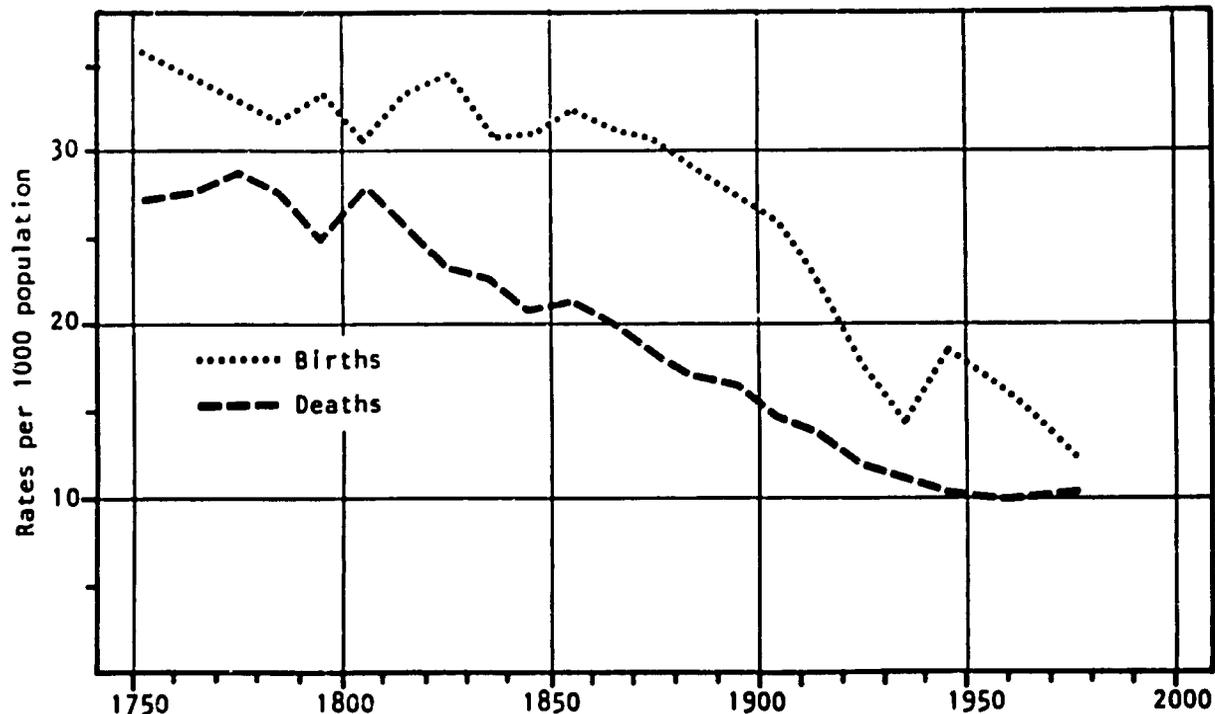
TABLE III. Proportions of infants breast-fed 6 months or longer in the population, and among infants dying at 6-11 months, in 4 PAHO study areas, around 1970.

Study area	Percent breast-fed				Ratio of mortality risk for breast-feeding <6mos:≥6mos.
	Total infant population		Infants dying at 6-11 mos.		
	<6mos.	≥6mos.	<6mos.	≥6mos.	
El Salvador	20	80	78.0	22.0	14.2:1
Kingston, Jamaica	51	49	87.4	12.6	7.1:1
Medellin, Colombia	61.8	31.2	91.3	8.8	10.4:1
Sao Paulo, Brazil	77.2	22.8	95.9	4.1	6.8:1

Source: Menchu (1972); Grantham-McGregor (1970); Oberndorfer (1968); Iunes (1975).

FIGURE 1

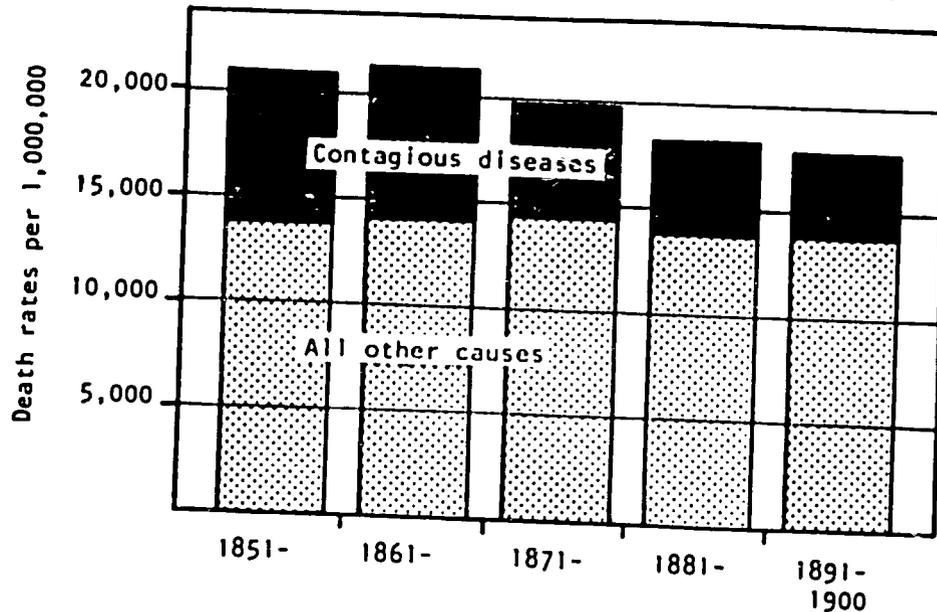
CRUDE BIRTH RATES AND CRUDE DEATH RATES, SWEDEN, 1750-1975



Source: McKeown, Thomas, *et al.*, (1972.)

FIGURE 2

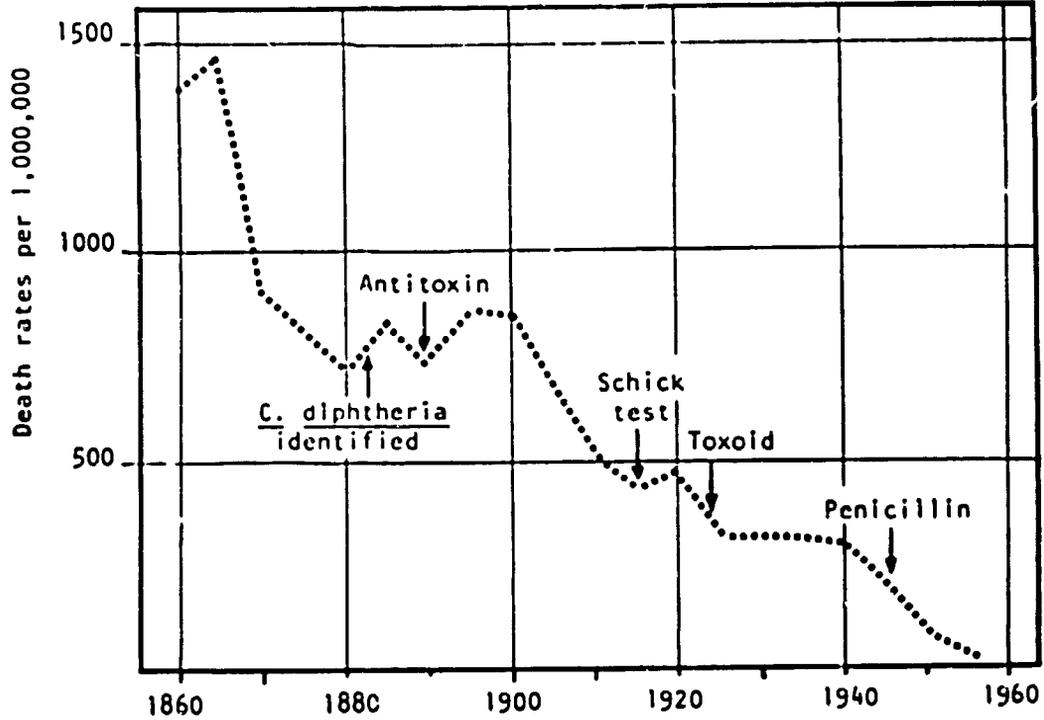
MEAN ANNUAL DEATH RATES FROM CONTAGIOUS DISEASES AND ALL OTHER CAUSES. BY DECADE, ENGLAND AND WALES, 1851-1900



Source: McKeown, Thomas, (1965.)

FIGURE 3

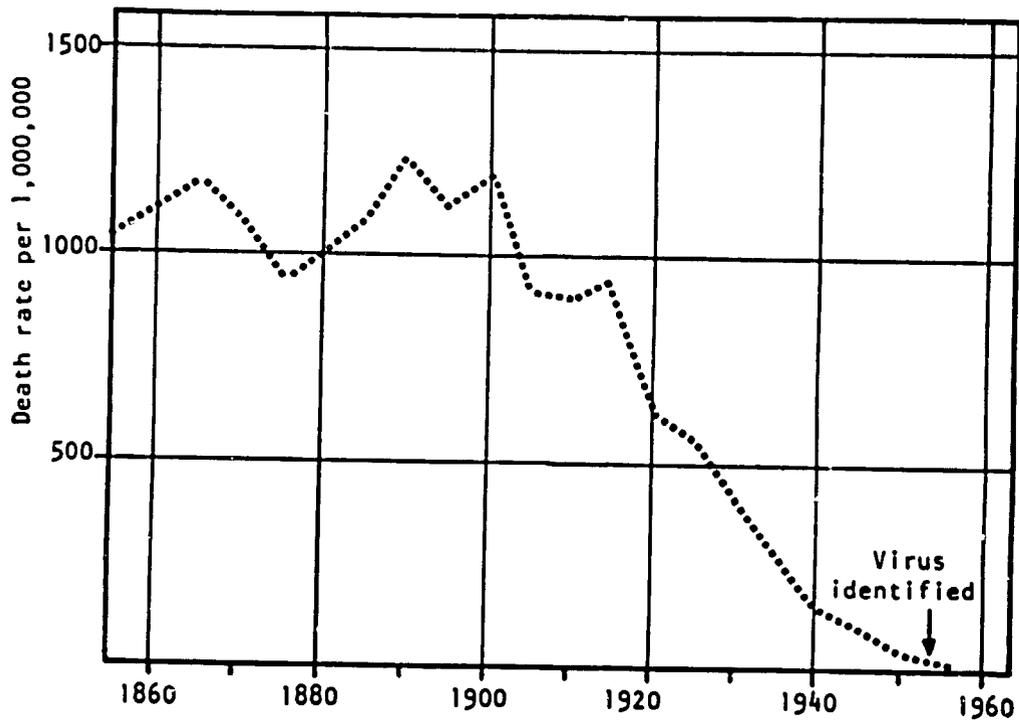
MEAN ANNUAL DEATH RATES FROM DIPHTHERIA IN CHILDREN
UNDER 15 YEARS, ENGLAND AND WALES, 1860-1960



Source: Redrawn from Kass (1971)

FIGURE 4

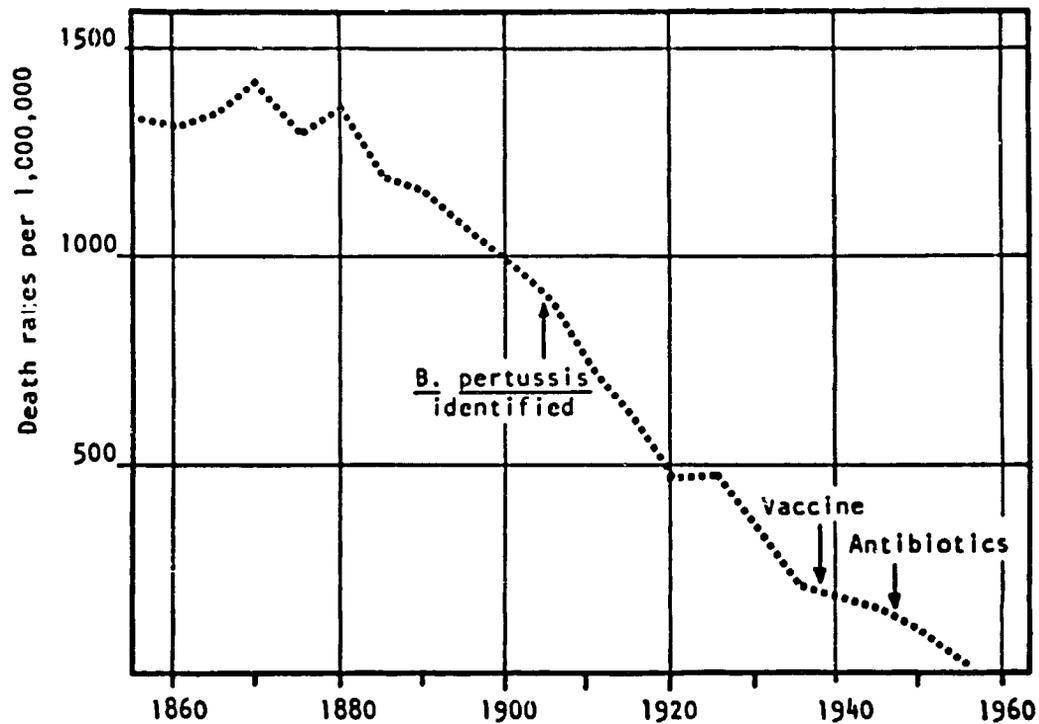
MEAN ANNUAL DEATH RATES FROM MEASLES IN CHILDREN
UNDER 15 YEARS, ENGLAND AND WALES, 1860-1960



Source: Redrawn from Kass (1971)

FIGURE 5

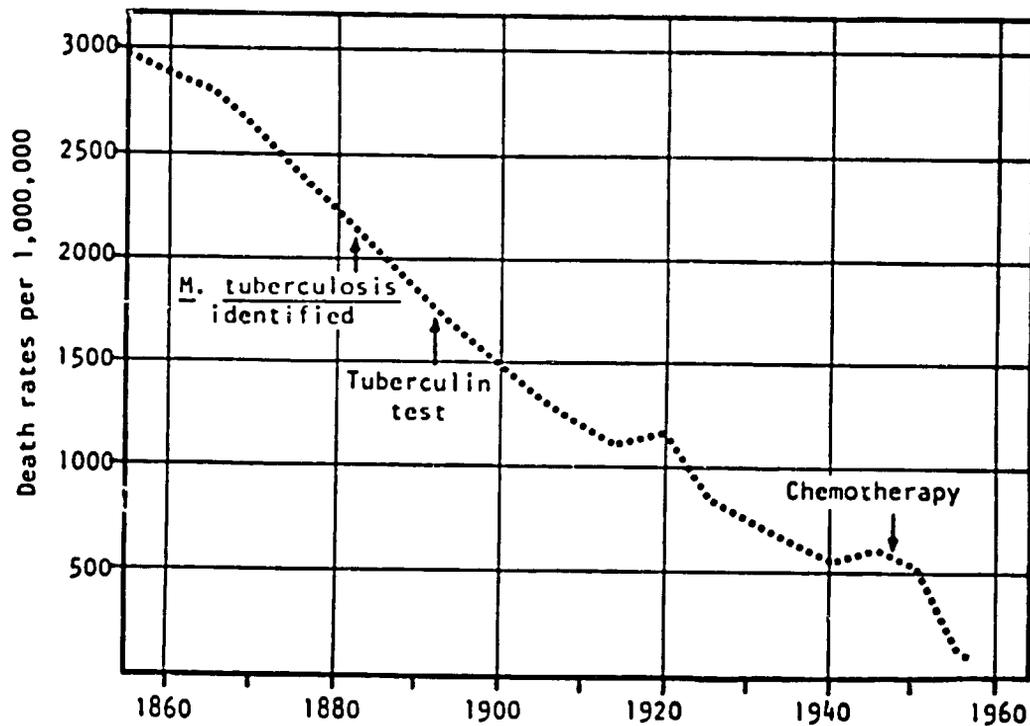
MEAN ANNUAL DEATH RATES FROM WHOOPING COUGH IN CHILDREN
UNDER 15 YEARS, ENGLAND AND WALES, 1860-1960



Source: Redrawn from Kass (1971)

FIGURE 6

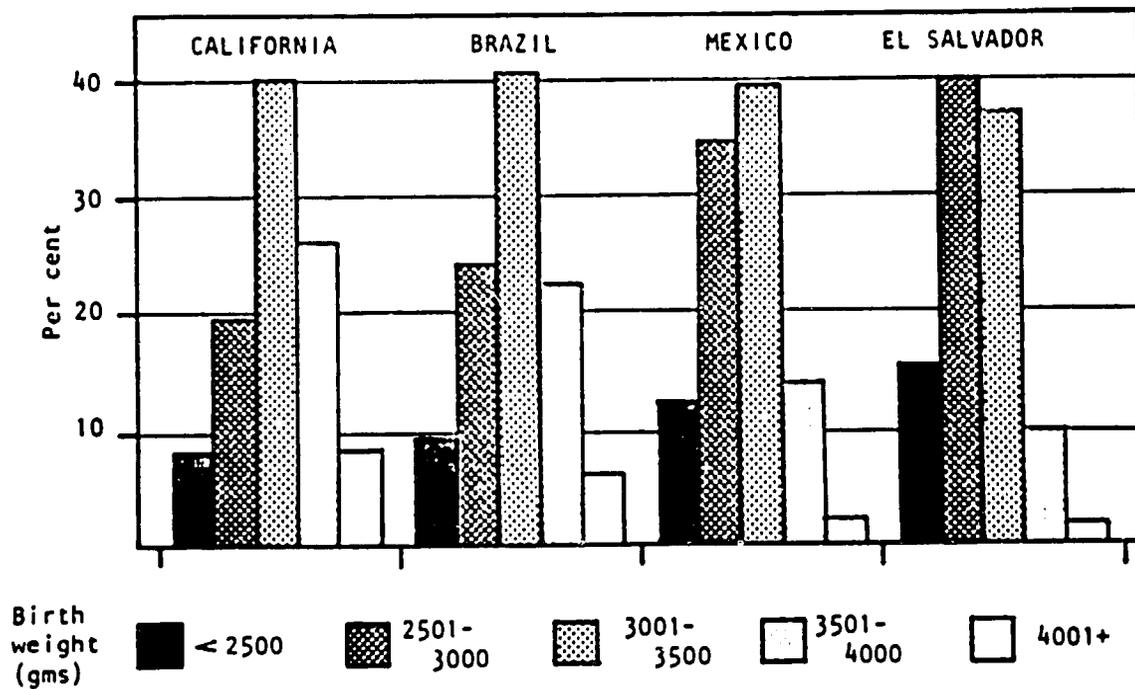
MEAN ANNUAL DEATH RATES FROM RESPIRATORY TUBERCULOSIS
IN THE TOTAL POPULATION, ENGLAND AND WALES, 1860-1960



Source: Redrawn from Kass (1971)

FIGURE 7

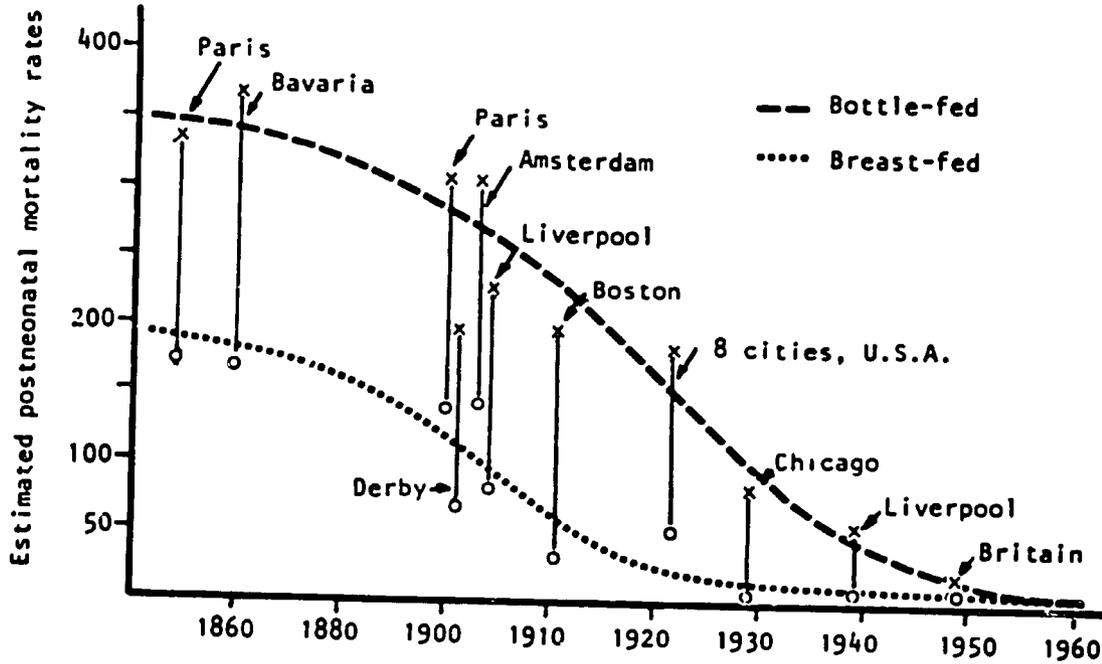
DISTRIBUTION OF LIVE BIRTHS, BY BIRTH WEIGHT, VARIOUS COUNTRIES, 1972



Source: Serrano and Puffer (1974).

FIGURE 8

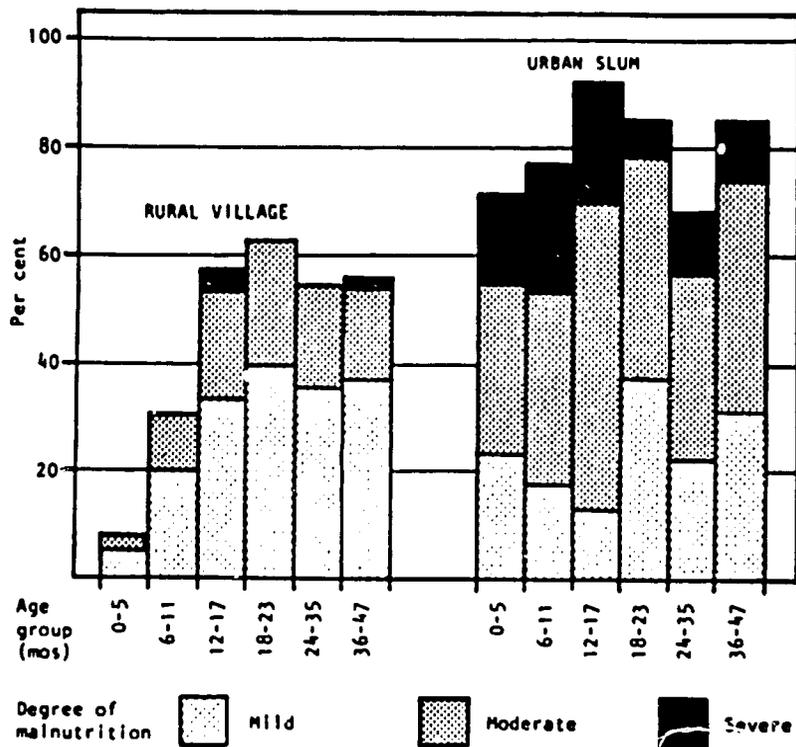
TRENDS IN INFANT MORTALITY RATES, BY TYPE OF FEEDING,
IN EUROPE AND NORTH AMERICA, 1860-1960



Source: Wray, J.D. (1977).

FIGURE 9

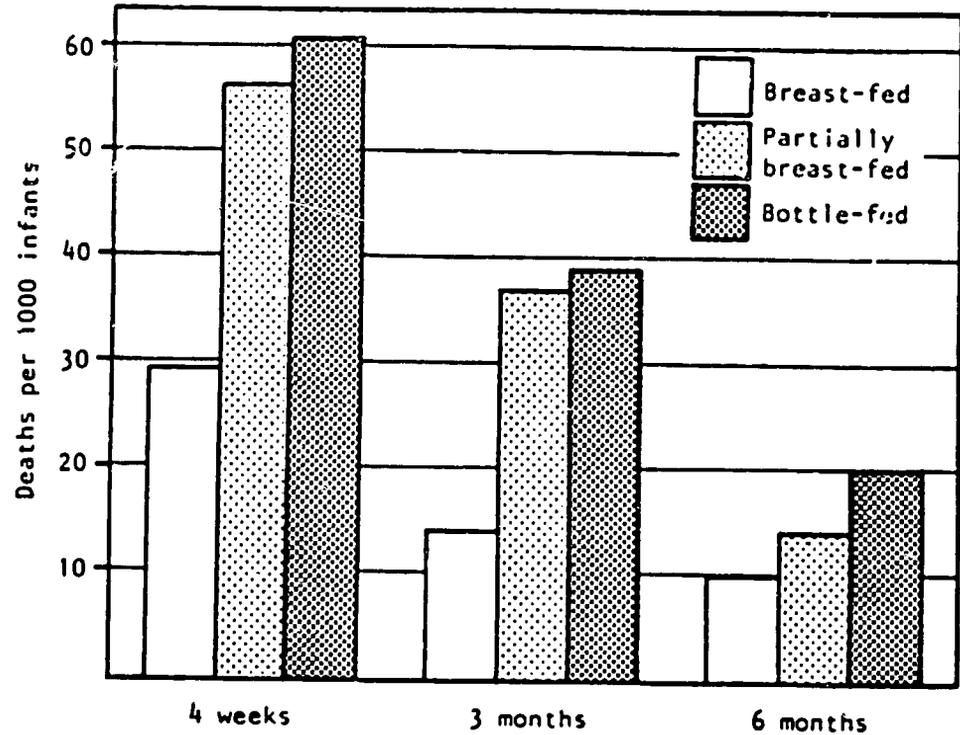
PREVALENCE OF MALNUTRITION AMONG RURAL AND URBAN CHILDREN,
BY AGE AND SEVERITY, THAILAND, 1972



Source: Khanjanasthiti and Wray (1974).

FIGURE 10

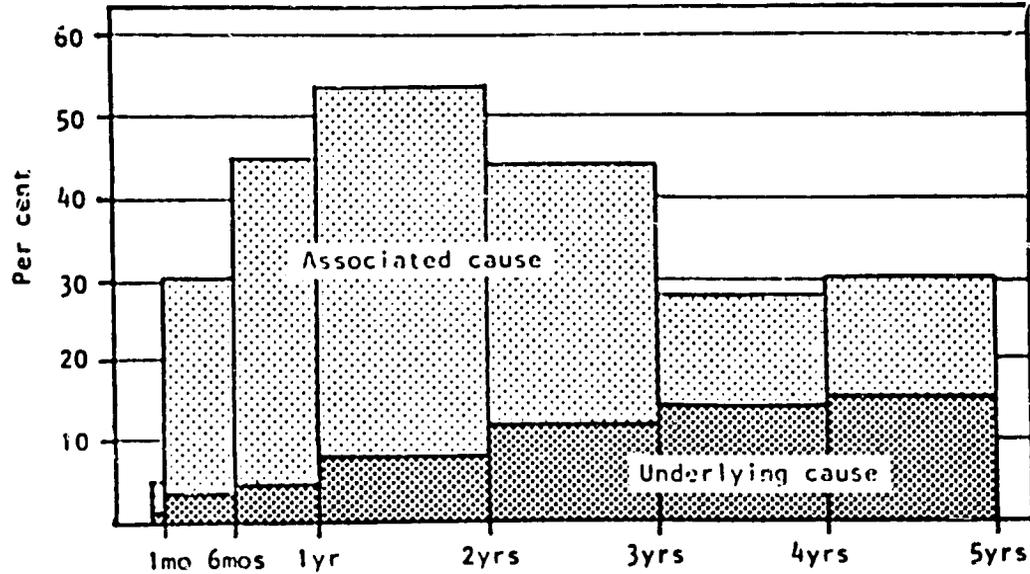
MORTALITY RATES DURING THE FIRST YEAR OF LIFE IN BREAST-FED, PARTIALLY BREAST-FED AND BOTTLE-FED INFANTS, AMONG THOSE SURVIVING AT 4 WEEKS, 3 AND 6 MONTHS, RURAL CHILE, 1969-1970



Source: Plank and Milanesi (1973)

FIGURE 11

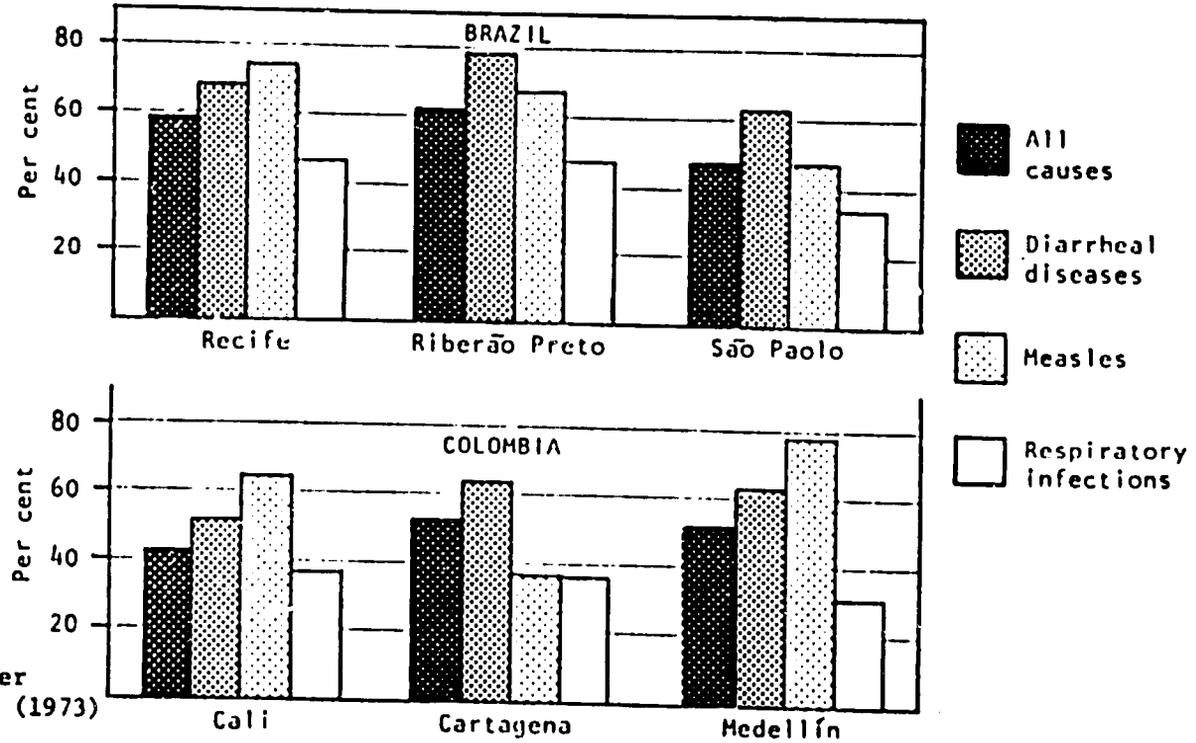
PERCENTAGE OF DEATHS IN CHILDREN UNDER 5 YEARS, WITH MALNUTRITION AS UNDERLYING OR ASSOCIATED CAUSE, BY AGE, LATIN AMERICA, 1970



Source: Puffer and Serrano (1973).

FIGURE 12

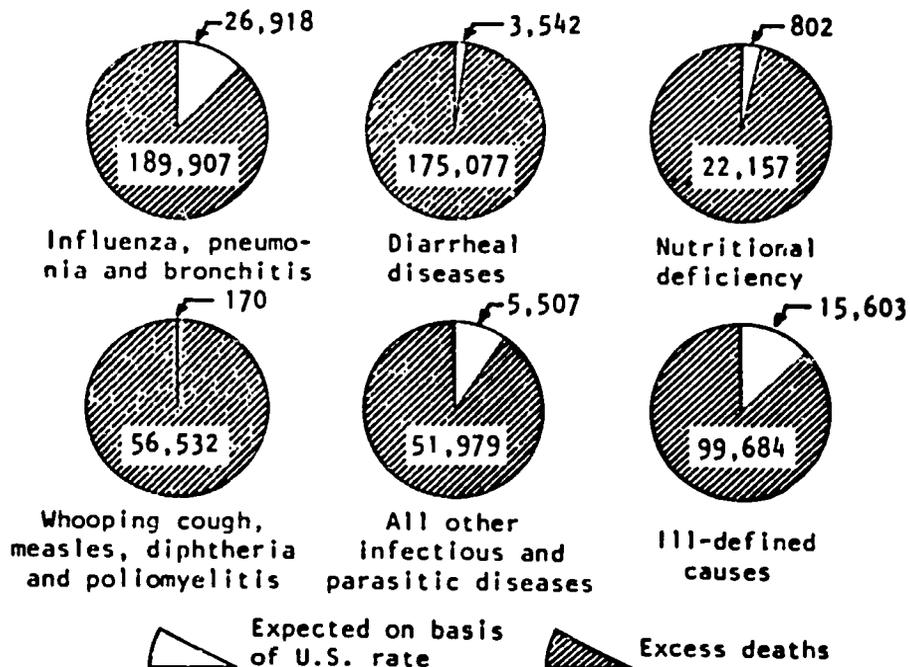
PERCENTAGE OF DEATHS IN CHILDREN UNDER 5 YEARS, WITH MALNUTRITION AS ASSOCIATED CAUSE, VARIOUS UNDERLYING CAUSES, LATIN AMERICAN CITIES, 1970



Source: Puffer and Serrano (1973)

FIGURE 13

NUMBER OF DEATHS EXPECTED IN CHILDREN UNDER 5 ON THE BASIS OF U.S. RATES, AND EXCESS DEATHS, BY VARIOUS CAUSES, LATIN AMERICA, 1970



Source: Puffer and Serrano (1973)

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INQUIRY AND COMMENTARY

DR. BRYANT: I do not want to encroach on the meeting time, but we can spend a few minutes for questions or comments from the audience directed to our two speakers.

DR. GISH: Sometimes when I listen to World Bank speakers, I have to pinch myself to make sure I am hearing correctly. I know John Simmons will not mind if I make a comment on his remarks about Tanzania.

I certainly accept the fundamental thrust of what he said, which is that Tanzania is not China; there is no question about that. And there are very good historical reasons why Tanzania is not China and could not be China. The Chinese leadership came to power as the result of an arms struggle, with guns in their hands. The Tanzanian leadership came very peacefully and quietly in the process of decolonization, another victory of British diplomacy.

With regard to the University, the process of change in Tanzania is a very complex one, as everywhere. It is being led, in the first place, by the President. There is considerable resistance from what is probably the only elite within the country—the senior civil service, university professors, and the like. The University has proven to be one of the most difficult of all the institutions to democratize in the fullest sense of the word, and the medical faculty, not surprisingly, the most difficult of all the faculties within the University.

The medical faculty was made up of rather traditional expatriate teachers and even more traditional Tanzanian teachers. It is very difficult to get academics to do what they do not want to do. You can throw them out, I suppose, but there must be someone with whom to replace them. Tanzania is not a revolutionary country where one would think of replacing academics with anyone other than properly qualified academics. So, it is very difficult to change the teaching structures and so on within the University and within the medical faculty.

President Nyerere and his Executive Council of the political party decided to reform the University rather differently—not through the faculty, but through the students. About two years ago, a decision was taken that there would no longer be direct entry into the University, including the medical school. Those leaving secondary school would go out to work and after about three years, I think, some of them would be selected for University, based on their work performance and how

they were viewed by their colleagues, particularly their political colleagues. I would suppose academic performance would continue to play some role in the selection. Now it may be that these students will be sufficiently different than their predecessors that the University will become something different. It may not be the case, however.

When this action was put into effect a year or two ago, the medical faculty accepted the whole of the student body from working health professionals--nurses, medical assistants, a great range of people--which raises some other issues, of course. But there is a very serious attempt being made to change the University. And I think that John Simmons, in a way, violated a principle that he, himself, made, that we are going to see success with regard to educational change, not so much within the educational system, but within the broader social structure. And I think that, really, is what needs to be looked at in the Tanzanian case. The overall structure is such that there is at least hope, and even if the medical faculty remains largely irrelevant--and it is--there is hope in spite of that fact for some of the reasons I have cited.

DR. SIMMONS: Thank you, I appreciate the clarification.

DR. BRYANT: If we could have one more comment, then we will break for group discussions.

SPEAKER: Being a Tanzanian, I thought I would like to clarify certain things. The resistance that you find within the medical faculty has been largely, in the past, due to the difference in training. We had people in the early 1960s who were trained within the Soviet Union and some other Eastern countries, and then, before that, we had strictly British-trained physicians and other health workers. And there was a conflict within those professionals. The Eastern-trained group was looked upon as not having adequate training within the medical profession, whereas the British-trained were considered to be the proper type simply because we were under British rule for some time. We also had another group, the minority, which were trained in the United States. These three schools of thought are not necessarily the same, and we did have that resistance. In fact, if I remember, a person trained in the Soviet Union or other Eastern countries had to go to a university within East Africa to be reoriented as far as medical delivery assistance was concerned.

At the same time, we have to realize that our medical system was organized along the British lines, which are completely different from the American system of medical delivery systems and, of course, from the Soviet and the other Eastern countries.

What we found as a problem within the University and the Ministry of Health, for that matter, was that there was no coordination—both were "doing their own thing." So there was no actual coordination, which I think the present system is trying to overcome.

The whole idea now is to have more mature students who are more specific as to what they want to do entering the University. These students have finished 12 years of school and two more years of training and are familiar with the problems and will probably be more efficient and willing to work under rural conditions.

I would also like to comment that this "mature entry," or having to work before you go into the University, does make provision for women, especially for girls, with the understanding that they cannot work for that period of time. In other words, women are allowed to go straight into the University without having to work, as I understand it.

LUNCHEON ADDRESS

Peter G. Bourne, M.D.

Special Assistant to President Carter

Good afternoon ladies and gentlemen. It is a pleasure to be participating in this Conference. It is particularly gratifying, I believe, because your organization represents the professional health and medical organizations and private voluntary organizations which long ago realized that the mutual self interests of all people of the world are served by an active global health policy, recognizing that disease has no political boundaries and few natural ones. Wind, water and the rodents and insects which abound on all continents of the world and serve to carry disease from one place to another have always challenged mankind's natural and man made immunities. Today, because of science and technology, and paradoxically because of economic and social progress, the challenge of disease is even greater--our world much smaller.

During the past several weeks, and as part of the President's overall government reorganization study, I have been assessing the federal government's involvement in international health. There are currently at least 18 federal agencies which impact on U.S. international health policies, with an estimated \$340 million budget for FY 1976. However, despite the number of different programs and very dedicated civil servants, I am concerned about the effectiveness and efficiency of the government-wide effort. Part of the problem perhaps lies in the fact that the many programs are scattered among so many agencies with little or no coordination, despite what some may say, and no clearly defined government-wide policy.

As you may know, the President, in his recent address to the U.N., made clear his resolve to provide economic assistance to the developing nations. This

pledge has been manifested by increases in the U.N. Development Program contribution and a substantial increase in multilateral aid to the World Bank group from \$1.9 billion, which the last Administration supported, to a \$2.6 billion replenishment request by the Carter Administration, which is now pending before Congress. For bilateral health assistance through the Agency for International Development (AID), which is the largest international health assistance program in the federal government, the FY 1977 budget is over \$270 million, up from the FY 1976 funding of \$189 million.

What do these figures indicate? First, I believe they demonstrate the long-range commitment of President Carter to assist the poorest nations of the world. Second, they demonstrate that the President believes that assistance should be channeled not only through government-to-government cooperative agreements, but through the multilateral institutions. However, as we all know, money alone cannot do the job. Sound management by dedicated people, knowledge, and adequate legislative and administrative authorities are essential ingredients. In that connection, I have been examining whether the quality of programs and the management of federal programs are making the most efficient and effective use of the American taxpayers' money. At this early stage of my inquiry, I cannot state what needs to be done, but I am already convinced that the federal government can do much better.

My survey has not been limited to the public sector. I have found that industry, universities, foundations, voluntary agencies, and professional associations contribute substantially to the U.S. involvement in international health. The voluntary agencies alone are estimated to spend over \$100 million for medical assistance, often in areas of the world where virtually no one else is helping. Multinational corporations operating in remote parts of the world also contribute significantly to the quality of health care. We really do not know how much the private sector spends, and the government does not even attempt to find out. I believe that if we are to do a good job in this area, the government needs to seek new and better ways to facilitate the potential for greater use of the private resources of this great nation. Government cannot and should not do it alone. Therefore, in the coming months I will be exploring areas where the government may be helpful to the private sector.

My view is that the field of international health is a vital part of this nation's effort to strengthen world economic order, strengthen our relationships with the developing and developed nations of the world, and contribute to the health and productivity of people everywhere.

For us to really meet that challenge, however, there are a number of complex issues which must be publicly and thoroughly debated before a U.S. policy can be formulated which has the support of the American people and the government. The task I am embarking upon will not be easy, the issues are complex, the solutions elusive and difficult. And the government will need your help and patience and support.

In order to properly advise the President and prepare for this debate, I have been talking to people in and out of government, raising questions, some of which I would like to share with you today. These are only illustrative and not all-inclusive.

First, how should the government go about making the most efficient use of its limited resources in this area? Do we need better organization? Should there be a government-wide policy or agency-by-agency policy in this area? How do we take advantage of the strengths of HEW in the manpower development and training areas, and at the same time take advantage of the political and technical expertise of the Department of State and AID? Do we need more technically qualified U.S. health personnel placed in developing countries, or should we embark on a developing country health worker training and development program? Should we set specific disease control priorities, or should we concentrate on low-cost rural health delivery systems? Where should health, population, and nutrition rank, along with other development sectors? What should be the balance between these sectors? Should we continue to have conditions attached to our health care assistance programs, and, if so, how would such a policy be translated to our contributions to multilateral organizations? How can we trigger more private sector involvement while maintaining a high standard of accountability for the use of taxpayers' money? How can we better explain the economic development importance of international health programs to policy makers and eliminate the welfare image which is associated with health assistance? I could go on. These are merely a few of the questions on my mind. I hope the Council will consider providing the

Administration with its views on these questions and any others it feels appropriate, and, of course, this request extends to the individual members of the Council and the respective organizations as well.

I have deliberately limited my remarks today largely to the issues raised by the assessment which I am now engaged in, for I believe it is premature to do more than express the interest and concern of the President in this field and to share with you some of the questions I have been raising in the agencies, in Congress, and within the private sector. Later, after the assessment culminates in a formal report to the President, I shall be in a better position to express more specific views on the policies which need exploration. I hope this will be the beginning of a continuing dialogue between the government and the private sector on what I believe has up to now been one of the most neglected foreign policy tools available to the U.S. government. Join with me in changing that situation.

In closing, I wish to say that the support of professional and private organizations which you represent, I feel, is critical to the success of any Administration policy in international health which evolves in the months ahead.

Thank you again for the opportunity to be here.

Village Water, Health and a Potential Role For Primary Health Care

Michael G. McGarry, Ph.D.

The most difficult aspect in preparing this paper relates to the ubiquitous nature of water. Water, its quality and availability, has a bearing on many of the most important diseases constraining development in the Third World today. Water is a prerequisite to the spread of schistosomiasis by means of the intermediate snail host; it is also essential for the growth of Simulium, the black fly bearing onchocerciasis; it is also the breeding ground of the Anopholes, the carrier of malaria. One cannot stress too much the importance of these water-related diseases and their eradication to development. It would be unrealistic, if not impossible, to give adequate coverage to all diseases which are affected by water, and therefore I intend to narrow the scope of this short talk and provide practical foci for group discussions to follow.

This meeting comes in the wake of the United Nations Conference on Water, held in Argentina last week, at which a great deal was said about water supplies and the need--if not human right--for safe, reliable water within reasonable access to all. The UN Water Conference was preceded by HABITAT, out of which came the recommendation for clean water for all by 1990. The justification for setting a target requiring \$30 billion per year over the next fourteen years hinges largely on health, the prevalence of enteric infections and other water-related diseases in developing countries, and the ability of improved accessibility of safe water supplies to combat these diseases. In the eyes of the so-called "developed society," clean water is seen as a prerequisite for comfortable, healthy living. This is feasible because acquiring water takes up only a very small percentage of the American or European income, and the thought of a cholera or typhoid epidemic running

through New York or London via the water supplies is truly horrific. Consequently, there is a serious danger that we the "international water engineers" will transfer such concepts and practices to developing regions where such diseases as cholera and typhoid are common place, indeed endemic; where their normal transmission routes have little to do with the water supply, and where the people simply cannot afford to pay for water supplies. These regions tend to accept external help and with it externally determined development priorities which may have little or nothing to do with their real needs.

On the other hand, there are areas which are in dire need of improved water supplies, where during the dry season the women must spend a good portion of the day walking five or even ten kilometers to scrape water from a muddy hole. These water-scarce areas justifiably demand first attention, but this justification is based on labour and time-savings and not on health. There is too great a temptation for the politician, the UN delegate, the AID agency employee, the international consultant and water engineer to simplify and generalize the solution using water as a panacea and climb on the next international bandwagon with such catchy phrases as, "Clean Water for All!"

It's just not that simple. If limited finances and even scarcer human resources are to be effectively spent on improving health, we must recognize that water delivery is only one element in a complex matrix of activities which must occur if it is to have any significant effect on health at all. The question is not how many water supplies can be installed over a given period of time, but why and how they are implemented, to what effect, and most important of all, at what opportunity costs.

I want, at this juncture, to make three specific points and later elucidate:

1. First, those tropical diseases which may be termed water-borne or water-washed may well not be affected by improvements in water supply in many of the communities at which the "water movement" is aimed.
2. Secondly, water is a political animal which has a tendency to be used for political gain at cost to the recipient. There is a dangerous tendency to take a purely technical approach in the delivery of water--to merely install equipment without adequate education and maintenance backup and omit the much needed integrated community development component.

3. Finally (accepting the fact that water, appropriately delivered and properly used, is an essential component of the health package), we are ignoring the greatest source of potential manpower capable of reaching the otherwise inaccessible smaller communities--the emerging primary health care programmes.

Water and the Water-washed Diseases

Bradley (1977) and Feachem (1975) have classified water-related diseases by the manner in which water affects them. Thus, typhoid and cholera are said to be water-borne in that feces-contaminated water supplies often have been claimed to be the spreading mechanism. The water-washed diseases, which are said to be affected by increased quantity of water used in the home, include bacillary dysentery and other diarrhoeal infections which can be water-borne but are more likely to be transmitted directly along the fecal-oral route. Many skin and eye diseases are affected by water use practices and include scabies, skin sepsis, fungal infections and trachoma. These are not water-borne, nor are the water-washed infection which rely on fleas, ticks, lice and mites for transmission. The water-washed diseases are likely to respond to increased quantity of water but not be affected by its quality. The World Bank conducted a survey of the literature on the health impacts of water supplies, which is summarized by Saunders and Warford (1976), in which it is concluded that, all other factors being equal, the highest diarrhoeal infection rates are to be found in households which are furthest away from their water sources. Likewise, studies pertaining to skin diseases show that skin disease prevalence is inversely related to the quantity of water available for use. Thus, the availability, the quantity and the way in which the increased water supply is used is more important to its effect in reducing incidence rates of the water-washed diseases than is its quality.

The mere delivery of water into a village by pipeline and standpipes, or more commonly by the provision of a tubewell and hand-pump, does not guarantee an increased usage of water. Westman and Hedkvist (1972) found in their review of the Tanzanian Water Programme that the amount carried from traditional sources was quite small and increased only slightly with the provision of piped water. Similar conclusions were drawn

by Peachem et al (1977) in their study of consumption patterns in Lesotho. A distinction should be drawn here between water supply programmes bringing piped water into the home and those which bring it to central points in the village. House connection supplies are associated with increased consumption and improved use practices but hand-pumps and stand-pipes tend not to be. Unfortunately, piped water systems to the individual household are more expensive and inherently give rise to the need for additional construction of drainage facilities to remove the spent water from the household and community. With perhaps the exception of Latin America, the main thrust of water supply programmes focuses on stand-pipe delivery and hand-pumps.

We can see then that major pitfalls are likely to be encountered in assuming that the water-washed diseases such as bacillary dysentery, salmonellosis, paratyphoid fevers, ascariasis, skin sepsis, trachoma, and others are going to be significantly reduced by merely installing central clean water sources in the village. Yet most of the water delivery programmes make this assumption and remain limited to the objective of only providing water.

What, then, about the quality of water? Major emphasis is being placed on not only providing water but ensuring that it is "clean." It would, of course, be desirable, however unrealistic, to be able to achieve WHO suggested water quality standards in villages--but under what justification? There are cases where chemical contaminants (for example, excessive fluorides, arsenic and nitrates) which are of definite danger to public health, but such contaminants are generally site specific. Justification for insisting on high standards of water quality is most often based on the fact that the water-borne diseases are indeed transmitted between and within rural communities via their drinking water.

Thousands upon thousands of tubewells and hand-pumps are being installed in cholera endemic areas of Bangladesh where water is plentiful, but "clean" water is scarce. Justification for this enormous undertaking is based on the assumption that provision of clean water will indeed reduce the cholera incidence rates. Levine et al (1976) have reported on their studies on the cholera/clean water relationship in Bangladesh. They came to the unexpected conclusion that cholera and diarrhoeal incidence rates among persons using water from the tubewells were no less than among those using

traditional unimproved sources. On the other hand, positive correlation was found between education and reduced cholera and diarrhoea levels which points to the conclusion that these diseases, endemic to the area, were not primarily water-borne.

Recent studies in typhoid endemic areas of Lesotho (Feachem, et al, 1977) compared typhoid incidence rates in villages which had and used improved piped water supplies to those which used only traditional sources. No difference in either the prevalence or the seasonality of typhoid or diarrhoea was detected between villages with or without piped water supplies. Yet justification for greater investments in water supply installations are based on the premise that improving the quality and supply of water will reduce typhoid levels.

These empirical studies point to the conclusion that transmission of what have been assumed water-borne diseases in rural communities of tropical countries may in many (if not most) cases not primarily be via the water supply but are more likely to rely on the more direct fecal-oral or the fecal-food-oral routes. In recognition, cholera and typhoid should perhaps be re-classified as water-washed diseases. As in the case of the other water-washed diseases, the installation of a central clean water source in the rural community would likely have no impact on health unless improvements in water use practices, excreta disposal, and hygiene were also achieved.

If we are to speak of the importance of water supply, proper excreta disposal and hygiene improvements to health, and the need to implement such activities in rural areas of developing countries, they must be viewed together as components of a "sanitation package." If each component is left to be implemented separately, much of the health benefits are seriously constrained, if not totally lost.

Delivering Water Supplies to the rural Community

Rural water supplies have recently become the focus of international attention. The idea of clean water, plentifully available in an otherwise destitute rural village, is highly attractive to the politician. It also appeals to the international banks, UN agencies and aid organizations who are now searching for ways to direct their efforts towards rural development. As a result,

rural water has risen from a point of relative obscurity and shoe-string budgets to a pinnacle of international publicity culminating in one of the largest international conferences, which will likely result in large sums of money being channelled to programmes which are ill-equipped to cope with them.

Despite their good intentions, international aid organizations are seriously constrained by their lack of contact with rural peoples of the developing countries; their very nature has kept them confined to a "top-down" approach and separated from the very peoples they now wish to assist. They are in the main limited to participating through financial and technical assistance and are thus highly technology-oriented.

The result of all this will likely be the release of large sums of aid funds to provide inducement for a more rapid expansion of rural water delivery programmes in developing countries. Here, money implies technology and technical solutions will be sought and pressed into service to meet the construction targets set by the funds being made available. Unfortunately, there is a severe shortage of experienced manpower capable of implementing effective rural water delivery programmes in both the donor agencies and recipient countries alike. This, coupled with the inherent difficulty of successfully introducing any kind of technology to the rural community, will likely result in gross errors and financial resources being wasted at high opportunity cost. Worse still, as experience in Africa has shown, the villager will become disillusioned and skeptical, even resistant to future efforts by his urban counterpart to improve his lot.

Examples of such failures are not difficult to find-- they exist in most African countries where lack of maintenance and repair capabilities in rural areas is exacerbated by the import of inappropriate well drilling equipment and several varieties of hand-pumps more suited to the back garden of the Western farmer than the centre of a drought-prone populous village. Henry (1976) gives an example of one Asian country in which about 50,000 village wells have been drilled in hard rock at a cost of \$40 million in water-scarce regions; an estimated 80 percent of these wells are no longer producing water. The problem is not only technical, the pumps are installed with insufficient involvement with the village-- the site for locating the pump is selected by the engineer not the village leader. The villager views the

pump as belonging to the government department which installed it and therefore not the responsibility of the villagers themselves to look after it.

We can, for the purposes of this discussion, and at the risk of over-simplification, broadly classify rural communities into three groups according to their accessibility to water and the approach which may be taken to improve the supply of water. In the first group are the rural villages without adequate access to a year-round supply, whether it is contaminated or not. These are termed the water-scarce villages where during the dry season water must be carried over a distance of several kilometers. Water is badly needed in whatever quantity and quality. Benefits to be accrued are largely in terms of labour and time savings, not health. These communities clearly view accessibility to water as being their highest priority and should be dealt with first.

The second type of community does have perennial alternative water sources within reasonable access. Given free choice, they would likely choose other development priorities than improving their existing water sources. Not surprisingly the vast majority of rural communities fall in this category. Consider the village which for centuries has collected water from a nearby stream during the wet season, and when it dries up, draws water from deep dug wells, also within easy access. As far as international standards are concerned, all these sources of water are heavily contaminated--but life goes on regardless. Then clean water is brought to the village, a hand-pump is installed. It is accepted and used, but the women and children collect the same amount of water as they did before and in the same containers. Daily routine doesn't change and the buckets and household containers are just as contaminated as they were before. Fecal contamination of household utensils, clothes, hands, and food persists; the smaller children continue to defecate indiscriminately around the household. The nearby stream and wells are also used for water supply as they have always been as far as one can remember. Then one day a metal pin on the pump breaks and it falls idle. There is no perceived need to request its repair; even if there were, who would the villagers ask, and what would be the response? No one is noticeably worse off by the pump's introduction and failure. The village is unaffected; the engineer and his administrator can chalk up yet another water supply

installed--but at what cost? The price paid is in the wastage of scarce manpower and financial resources, the misconception that rural development has been enhanced, and in the skepticism engineered and confirmed in the villagers perception of the government's ineffectual "assistance."

The third grouping encompasses the rural town which may or may not be water-scarce but which is large and organized enough to be directly accessible to the central government water supply implementing agency. Here the top-down approach can be taken. Piped water to the household is normally the objective, and a committee or municipal department can be made directly responsible to ensure continued maintenance of the system and collect water rates to pay for maintenance and extension costs. Here health benefits are likely to accrue--water is being made plentifully available inside the home. Water use practices will change and sanitary education is relatively easy to effect. The rural towns are and will continue to be serviced first. They are attractive to outside funds in terms of accessibility, capacity for repayment of loans, potential health benefits, and ease of centrally coordinated management.

The water-scarce village will also be given priority, but there exists no capacity to maintain the tubewell or piped water system, since the villages are most often over a day's journey over rough roads away from the central point of administration and supplies. Here the top-down approach is highly susceptible to failure. Examples of clogged well screens, broken hand-pumps, seized diesel engines, burst pipes, and defunct stand-pipe taps are commonplace throughout the country where the top-down approach is taken.

Up to this point I have been somewhat critical, even cynical in highlighting the pitfalls of implementing water and sanitation programmes in rural areas. There are some success stories; in Malawi for example, village participation was the key to success in bringing piped water to over 150,000 villagers in the water-scarce category at a cost of less than \$3 per capita. The engineer, Lindsay Robertson, backed by the Department of Community Development and Social Welfare, began on a small scale by physically demonstrating that one could transport water through pipes from a perennial mountain stream several kilometers away. Convinced, the villagers participated by digging all the trenches, laid the pipes and constructed the concrete apron and soak-away

pit around the village taps. This initial demonstration mushroomed, and soon the demand for piped water outstripped the capability to deliver. The barefoot engineer concept was introduced in the form of rural water technicians for the ever-expanding activity. Three-week technical courses are conducted for carefully selected technically oriented men with limited education, this training also includes a major community development component. Initially the piped water projects were small in size, making use of demonstrations and examples, so that the villagers knew exactly what they were getting into. Now, large public meetings are held to ensure that any commitments being made are fully understood and acknowledged by all. More importantly, this approach involves the people not only in construction but in decision-making roles so that they are, to a large extent, responsible for the success of the system and willing to take on its continued maintenance and repair.

The community development approach taken in Malawi took a decade of patience, understanding, and hard work to achieve. It is a clear cut example of success; unfortunately, the urgency with which international funds will have to be spent, the commercial drive of equipment manufacturers, and the inexperience of agencies in dealing with rural peoples are likely to result in no heed being taken.

Primary Health Care and Rural Water/Sanitation Delivery

It is the need for the bottom-up approach in rural villages which poses the greatest barrier to the national water authority's effectiveness. Such authorities are typically staffed by engineers, economists and administrators, not by sociologists and community development officers. Inherently, they operate through the medium of technology, and by past experience they are urban-systems oriented. With few exceptions, recent experience has revealed their incapacity to reach and interact effectively with the rural village. Some other mechanism capable of operating at the village level is needed. In principle, community development departments are well suited to the task of ensuring village participation and commitment, but in many countries they are relatively ineffectual and lack the technical capability required to design and construct water and sanitation systems, nor are they health oriented. I would like now to take up the role of primary health care programmes in

improving rural water supply and sanitation in rural areas.

We are well aware of the shortcomings of many conventional health services of developing countries in which emphasis has been on creating sophisticated centralized medical services, the training of highly competent qualified medical personnel, and an orientation towards curative medicine practices. The outcome is a rigid and over-centralized urban-oriented administrative superstructure which, although purporting to serve the rural poor, lacks the necessary ability to reach out to them.

In attempting to meet the challenge, a few countries have undertaken commitments to the rural poor and given real priority to rural health care services. These include China, Cuba, Tanzania and Vietnam. Each system of primary health care differs in response to the varying needs and conditions of the community and country. There are some common characteristics, however, some of which would be of use in rural water supply and sanitation programmes. Primary health care activities may be centrally coordinated, but they are locally controlled. Action takes place at the village level, the chief functionaries remain and work in the community, are responsible to it and preferably have been brought up as one of its members. Thus a source of education and information is always available to the village. Any technology introduced as part of the primary health care programme can be maintained and is regarded as belonging to the community it serves.

In Vietnam, rural health services began in 1945 with a total of 51 physicians, 152 assistant physicians, 21 pharmacists, 1,227 nurses and 215 midwives. From its inception, emphasis was on preventative measures. By 1967 the secondary medical schools had trained 8,000 assistant health workers (assistant doctors and assistant pharmacists) and 20,000 auxiliary personnel (nurses, midwives and student nurses), not counting a still greater number of health workers and hygiene activists who had passed through short courses (McMichael, 1976). From the beginning it was an uphill battle:

To make physicians trained in the old faculties
leave their consulting rooms or hospitals, become
interested in digging wells and installing septic

tanks, in a word, in the prevention of diseases, is contrary to their deep-rooted habits....To give an injection of an antibiotic, which cures almost miraculously, is a gesture much more congenial than to lift up the lid of a septic tank. To practice a complicated surgical operation with costly ultra-modern apparatus imported from abroad results in more prestige than to lecture on hygiene in villages or to help village health workers complete their medical education. (Tham Ngoc Thach, 1955, McMichael, 1976).

Of all the public health measures designed and put into use in Vietnam, the double septic tank (double vault latrine) has perhaps been the single most important factor in preventing disease. This unit permits anaerobic composting of refuse and excreta over several months before it is used as an innocuous humus fertilizer. The double tank is used to combat the "fecal peril" seen as being a focal point in the spread of disease. Model tanks were built to convince the peasants of their value before generalizing their use. This was backed by educational programmes effected through the basic health network aimed at changing unhygienic habits and improving sanitation. Water supply had previously come from open and severely polluted ponds. Deep tubewells and hand-pumps could not be afforded, so during the dry season wells were hand dug six meters deep, the sides being kept up by concrete pipe rings lowered into the well. At present there are on the average one double tank, one well, and one bathroom respectively, for 1.4, 3.3, and 4.7 households. The key to this success has been the ability of health services to work from within the community.

As in all our public health work, it is by patient persuasion that the new overcomes the old, step by step in a slow process of assimilation. (McMichael, 1976).

It is often claimed that such achievements are not possible in many of the developing countries which do not have the Vietnamese or Chinese political infrastructure, yet primary health programmes are being initiated in many such countries; these represent an enormously valuable potential resource for improving water supplies, sanitation, and hygiene levels in the future. There are some fundamental problems, however.

Earlin (1977) presents a survey of 180 such low-cost health delivery systems which are serving an estimated 150 million people. The survey was limited by its reliance on a single mailed questionnaire and all which that implies. However, there are some outstanding conclusions we can draw with respect to preventative measures being taken through water supply and sanitation. In trying to identify common project bottlenecks, each project was asked which of a given list of deficiencies and problems interfered with project operations. Responses listed in order of an "interference score" are given in the following table:

Inadequate arrangements for disposal of human wastes	96
Too few health workers (other than physicians)	96
Low literacy level	90
Acceptance of superstitions	88
Inadequate or irregular supply of safe drinking water	78
Too few physicians	78
Inadequate funds to buy needed resources	77

Thus, excreta disposal and water supply are seen to rate high on the list of important bottlenecks; yet, when the data were analyzed for areas of project activity, health education, maternal and child health (MCH), treatment of the ill, nutrition, immunization, and training were most common, while fewer than four out of

ten projects were attempting to improve environmental sanitation.

Why, with recognition given to the importance of inadequate excreta disposal practice and water supplies, isn't more being done about them? Looking at the kinds of personnel engaged in the projects gives some clues: only 20 percent of projects had a sanitary or health inspector on staff; training programmes to upgrade skills in water supply and excreta disposal are not even mentioned. Thus, project priorities and activities reflected personnel expertise but not perceived problems and needs.

Primary health care programmes have been shown capable of reaching the village with basic environmental improvements. Unfortunately, relatively few countries have thus far benefitted in this way. In other areas, many low-cost health services projects are operating at a small scale and will serve as models on which national health care programmes will be based. Few are engaged in improving excreta disposal, water supply, and facilities as a result of lack of technical expertise and thus confidence in this area. We are, I believe, at the beginning of a rapid expansion of rural health care programmes. If they truly are, as they purport to be, "preventative" in orientation, then technical expertise in water and sanitation will have to be integrated into their activities and training programmes. Conversely, if the poorest and remoter villagers are going to benefit from the coming surge of emphasis on water, we will have to look to the emerging primary health care programmes as the most important mechanism of implementation.

Conclusions and Questions

In presenting this paper, I have tried to highlight some of the pitfalls and bottlenecks in delivering water to rural communities, in particular the impacts (or lack of them) of village water on disease, institutional and community involvement and participation problems, and the valuable role which rural health care programmes could make, but are not now effectively meeting the challenge. Having covered the "whys" and "whats," it is now time to turn to the "hows" and "wheres." I would like this meeting to address the problem of integrating water supply and sanitation into existing and future rural health care activities. This may not be as easy as it first appears. However, I am certain of one thing--

if health care projects are willing to take up the challenge and modify their approaches, then finances will soon follow; there should be no serious funding constraints.

There are almost as many approaches taken in rural health care programmes as there are countries and communities in which they work. Some are national in scope but barely reach the district clinic, while others focus on smaller geographical areas and are more effective in reaching the village level. Some operate from within the Ministries of Health, while others work quite separately from the government. All have roles to play, but which roles?

1. Integration of Rural Water and Sanitation in Health Care (HC) at the International Level

Few, if any, UN agencies (including WHO), banks, or donor organizations have succeeded in integrating water supply and sanitation into their HC activities. At the heart of the problem remains the disparities, lack of contact, and even respect between the medical and engineering professions. This must be overcome, but how?

--What funds are and will be allocated to village water supplies, and how can they be effectively channelled through to primary health care programmes? Certainly bank funds will not be available to HC for such purposes until these programmes can at least demonstrate capability in and commitment to this sector.

--What specific HC projects could be supported in this way and how might they act as examples for other programmes?

2. National Approaches to Implementing Water Supplies and Sanitation

There are numerous ways by which water sanitation facilities could be implemented, but questions are raised as to which would be the most cost effective.

--Which type of personnel and administrative infrastructure are best suited to cope with delivery and maintenance of such technology in the village?

--Should control of surveys, design, standards, construction, and maintenance be held at the central district or village levels?

--Who should be responsible for continued input to the village in terms of sanitary education: the village health leader, barefoot engineer, midwife, auxiliary etcetera?

- Where should responsibility for maintenance and repair of the system be held?
- What sources of funds of construction and maintenance are relevant and in what amounts: international aid, national, village or, perhaps, user tariffs?

3. Manpower Development

Critical to the success of any activity in rural health care programmes is the training of relevant personnel. Technical competence needs to be integrated into the system at most levels; for example, the village worker will have to know the elements of hand-pump maintenance and to be able to recognize the tell-tale signs of surface water pollution; middle-level workers will have to be able to inspect and oversee construction; technicians will need to be able to design reticulation systems; and physicians will want more practical experience to assist them in their supervisory roles.

- What kind of technical/engineering experience, competence, and confidence need to be integrated into the system, to what degree, and focusing on which personnel?
- Specifically, what courses and in-field experience are needed by the physicians, engineers, technicians, medical auxiliaries, sanitarians, nurses, midwives, Medex personnel, health inspectors, village workers, and so on?
- What training mechanisms and aids are appropriate to which level of personnel?
- Which institutions and projects are relevant to begin this process of training, and what teacher training requirements are there?

4. Relevant Technologies for Rural Water and Sanitation

A bewildering array of technologies are available for abstracting surface and ground water supplies, water transport, purification, excreta treatment and disposal, and so forth, but:

- Which ones are relevant for use in the village?
- Which ones are compatible with technical capability in the village for maintenance and construction, and which ones can be afforded by the people without external assistance?
- Where are the gaps in technology requiring further innovation and field testing?
- What design manuals are required and for which user?

5. Evaluation

There should be some kind of evaluative mechanism to provide pre- and post-project assessments. This would be not only to highlight successes and failures, but also to provide insight into the cost-effectiveness of the various approaches taken, which will enable further adaptation and optimization.

--Who should carry out such evaluation, by what instruments, and how?

--What mechanisms exist to ensure that such evaluations are coordinated to permit both comparisons within and between projects.

These are just a few of the questions which I would like discussed in the group sessions which follow. The suggestions and conclusions arising out of this meeting will, I believe, provide focus and positive guidelines for a new and very significant combined initiative in primary health care and rural water programmes.

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INQUIRY AND COMMENTARY

DR. NUTE: It is easy to chuckle at the witty iconoclasts, while congratulating oneself on one's tolerance in chuckling, rather than feeling hurt or wounded, and then to forget to do anything about it. You have made me uncomfortable. As a planner who has put in a certain amount of work on this Conference, it is not cheering to be told that this is "old stuff," and we have heard it all before; but I give you my personal pledge, I am not going to let myself get too comfortable on hearing this. I invite the rest of you to join me in staying uncomfortable.

DR. BENNETT: I was interviewed once for a fairly responsible administrative position, and they asked me what I thought was the first duty of an administrator; I replied that it was to destroy organization. I did not get the job. I still believe it, however. I think that one of the most important things we can do is to destroy outmoded and useless organization to make way for more productive and more up-to-date organization.

MR. NEAL: I would like to direct a question to Dr. McGarry. You mentioned a lack of correlation between supply of water and infectious disease. I cannot quote the references, but it seems to me our previous literature referred to the diminishing of diarrheal diseases correlating with the increase in water supplies in rural communities. Could you comment on that? How does it relate to what we previously have been taught?

DR. MCGARRY: The point I was trying to make was that pure water supplies are not enough for improvements in health. Pure water supplies are a good and worthwhile objective, depending upon the costs, but we have to realize that pure water supplies are next to impracticable in most village situations in developing countries.

With respect to the empirical evidence to which you are referring, there have been at least seventeen such studies. Many of them, if carefully analyzed, arrive at very broad statements such as you suggest. Very few have come up with any conclusions. Many of them have become rather confused because the factors which influence diseases--such as socio-economic advancement, education and so on--are so prevalent that they compound with many of the other variables that are under study and it becomes impossible. The studies are rather irrelevant in a particular situation.

DR. NUTE: Are you not saying in effect that a clean water supply is a necessary, but not a sufficient, condition for improvement on these kinds of diseases?

DR. MCGARRY: Everything is relative. We are not trying to make somebody absolutely well. There is no such thing. What I am saying is that, within the constraints, the finances and manpower resources available, we should be going for more water supplies as part of a health package, rather than aiming only at pure water supplies.

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POVERTY AND HEALTH: Carl E. Taylor

Most of the participants here are health workers directly involved in overseas projects and programs. We are used to facing realities in daily work. I sense two frustrations which I would like to deal with briefly from what I have drawn from the poverty and health group reports.

A. How does all of this theoretical perspective on the effect of poverty on health relate to my practical every day work in health?

B. What can I, as a health worker, do about poverty?

1. Definitions: In the remarkably rapid general acceptance here of Dr. Grant's distinction between poverty as a resultant of social forces and its characterization only by income levels, I encountered only one partial reservation. Poverty in this new definition would be measured by a group of social parameters based on percentages benefitting from social programs in contrast with the more traditional economic indicators. When you bring this down to the level of the individual, however, the concept of equitable distribution brings you back to the fundamental issues of the resources available for each person. It is in group indices that problems of distribution become evident.

2. Measurement Criteria and Indices: Again, there was remarkable acceptance of Dr. Grant's proposal that we need new social indicators of development to supplement the GNP. This was carried to the point that at least three groups suggested that the PQLI might be used as a means of determining whether a country should receive aid. There was some feeling that aid should be adjusted to evidence of improvement in the index. One problem with this is that PQLI is an end result indicator. Such a criterion for aid should be a process indicator which can be applied at the point of initial decision. This requires some means of determining whether redistribution of resources to those who are poorest is in fact occurring. An input index rather than an outcome index would also be useful, especially if countries can apply it for themselves. International opinion can

promote the measurements. The stark contrast between improvements in GNP and PQLI would provide a new kind of evidence of progress so that countries can evaluate their own goals.

3. There appears to have been a general assumption that poverty is bad for health, but almost no comments were recorded on this part of the interaction. The main focus of discussion seems to have been the reverse influence, or the ways in which health activities modify poverty.

I find it remarkable that there was almost no attention to the direct effect of health status on poverty. Again, this may have been accepted as an assumption. Instead there was great concern about how health and other development activities might change the internal organization of communities and governments, and how we as health workers can help to resolve problems of equity and poverty as part of promoting distributive justice.

a. Direct Effects. The direct effect of health on poverty needs attention. This should help relieve some of the frustration expressed by health workers because there is evidence that the effects are great.

1) Better health increases productivity of workers; it reduces the waste of early death; it increases learning capacity.

2) Better health also seems to contribute to attitudinal change, in increased recognition of the value of work and planning for the future. A longer life for one's self and better hope for survival of children gives people more to plan for. A general sense of well-being promotes initiative and provides the energy for leadership. A buoyant entrepreneurship presumably can lead to the creation of more jobs and the social will to demand solution of basic needs as human rights.

3) Reduction of death rates seems to facilitate the more rapid reduction of birth rates. This needs to be promoted by deliberately and consistently linking services for family planning with health and nutrition. The complex interactions include variables such as: efficiency of integrated services, political and cultural acceptance of combined services, and the child survival hypothesis.

b. Introducing Social Change in Promoting Redistribution of Resources to the Poor.

1) Most groups showed great concern about the manipulation of economic and political power. A strong feeling was expressed that in order to help the poorest billion, international agencies have to find new ways of working with national and community elites that are different from past patterns. Ways have been sought to gain access to what is loosely called "the community," but with the clear implication that foreign aid must get access to the poor in the community even if it means bypassing the elite. At least verbally there is enthusiasm for working at the grassroots and identifying with the community in the Ariyaratne model. This is balanced by a certain amount of anticolonial feeling that only community people can identify with their own. The need for change agents is accepted and several anecdotal accounts tell of ways of preparing them to be more effective. For example, the suggestion was made that village workers should be taken to visit other community projects rather than having all travel money spent by project directors who attend international meetings.

2) On the other hand, there was also recognition that success has in some instances seemed to have been associated with cutting off of outside assistance. The key comment here, perhaps, is that there may have been prolonged input earlier, and the cutting off of outside contact for a period permitted gestation that internalized a change process and made it adapt to local conditions.

3) A repeated refrain was the need to change the time frame of expectations for change. A people-oriented process of integrated change has its own pace determined by local impediments and a concatenation of forces that is somewhat unpredictable. It cannot be forced into an outside mold.

4) There is encouragement in the observation that any community, however poor in total income, can still have the capacity and internal resources to move forward. The need is to diagnose the local constraints holding back the drive for self betterment and to adapt organizational and technical measures to meet local needs. Simplified packages of interventions can be put together with increasing assurance. The services must be pragmatic in testing what works. But this does not mean simply an erratic trial and error.

process, because new research methods are available to move directly and rapidly to finding out what is appropriate in each situation.

5) At the interface between the community and the services, a new and flexible set of relationships needs to be defined and applied. The arrogance of ignoring existing capacity and systems in the community is dysfunctional. All activities should build toward an educational impact which will raise consciousness of the possibility of change. But such change will necessarily be traumatic. People always demand acute medical care, but provision of simple therapy can be combined with helping them to develop awareness of professionally determined need, especially for preventive measures and family planning.

6) Health personnel have been under severe indictment as being more elitist than any other part of society. The change process has to start with ourselves. We need to learn to link health care with other services in ways that make sense to villages, and this means that vertical programs will have diminishing relevance.

7) Finally, several groups stressed the need for the U.S. to recognize its responsibility as an international role model. If we are going to call for societal sacrifice and redistribution within developing countries, the harsh realities of redistribution must be applied first to ourselves, especially in health care.

In closing, I have a paper appearing in the June APHA Journal entitled Economic Triage of the Poor. The theme is that the strongest force for population control in the past has been an un verbalized triage of individuals and families because they are poor, helpless, and hopeless. There has been irresponsible talk in this country about triage of whole populations in international assistance just because they are hopeless. The reality is that countries do not die, but individuals, families and minority groups do. The challenge of this conference is diametrically opposed to the notion of triage. Rather than letting the poor die, we are saying that the best hope for the world is to seek new ways of bringing health and hope to those who suffer from poverty.

COMMUNITY RESOURCES AND HEALTH: Stephen C. Joseph

In attempting to categorize the major themes that emerged from the five groups on community resources and health, I have put them in a structural context, ranging from the local to the international. In addition, as a theme that applies at all levels, I would draw your attention to the stress that was placed in Mr. Ariyaratne's address on individual human values and potentials, so as to avoid becoming inappropriately focused on the inanimate structure of programs and institutions.

The first structural level that elicited a great deal of consideration, for obvious reasons, had to do with the characteristics of the community itself, or of communities themselves. Several major points were raised:

Many local communities, both rural and urban, are fragmented into mutually hostile elements. This fragmentation within communities is often a very different reality than the outsider's somewhat romantic view of a homogenous self-reliant village or urban society. Religious, ethnic, political, or economic divisions within a small community are often responsible for the failure of community action projects.

Related to this is the problem, "Who speaks for the community?" It is all very well to talk about identifying and supporting community leaders, but the question is, who represents the community, and how does one work with and identify community leaders who have the confidence of a broadly based local constituency?

The consensus in the groups seemed to be that one way to get to the issue of who speaks for the community is to attempt to build upon traditional methods of organization, of process, and of methods of coping with life's problems which exist in both traditional societies and in societies in the process of rapid change. Working within this perspective, it is more likely that the community will select and support representative leadership.

A caution was raised in several of the groups, concerning the necessity for program continuity. One group urged us to remember that, often, when outside "change agents" become involved in a local community, and then

leave the scene for one reason or another, local people (as well as local institutions) remaining behind may be left in danger, in the widest sense of that word. Intervention in the process of community action is neither value-free nor danger-free.

There was much discussion, of course, about self-reliance. The point was stressed in our groups, as it has been here throughout the conference, that self-reliance ought not to become a slogan for "benign neglect," that the provision of outside resources and support, when necessary and when desired by communities, is important.

This relates to another important point: there are some problems that are larger in scale than the individual local community, and, thus, there are some instances in which larger-scale approaches to community development must be taken. For example, the training of skilled manpower usually cannot be undertaken on a purely local basis. Similarly, there are issues in transportation and communication which must involve the cohesion of small communities into larger planning and action units.

Flowing from this is the question, particularly as related to these larger-scale interventions: is there ever any justification for "imposed" programs? To what extent ought a larger element in a society impose its will on a local community, either from the point of view of the pragmatic probabilities of success or from the ethical viewpoint? This led us to a very major point. There was general agreement in all of the groups that most community mobilization activities are viewed as a threat by most governments. I will return to that point toward the end of this summary.

The second structural level, after the characteristics of the community itself, is the level of institutions working with communities--institutions which are based outside the locality. We discussed the problems of geographic, social, and cultural distance. There was general consensus that to the extent these distances can be diminished, there is a greater probability of a successful relationship between communities and outside institutions.

There was much debate on the relative merits of two approaches to organizing principles. To what extent should specific program activities (e.g., the digging of a well, the building of a health center) be used to catalyze community mobilization and organization? Alternatively, to what extent should basic community organization, mobilization, consciousness raising, be used as a

crystal for the development of more specific program activities? Obviously, as we heard from Mr. Ariyaratne, these two approaches have to go hand in hand, but it is a question of balance and a question that particularly troubles people who are in essence health technicians.

How do we measure the results of community activities from an institutional basis? What are the problems and the evaluation needs of these difficult rhetorical concepts relating to peoples' attitudes and to changes in society? To what extent can we afford, or not afford, to invest resources in evaluating, in some rigorous fashion, what is done?

An important point which has not been raised in the previous summary discussion is that, in thinking about institutional relationships to village communities, we must recognize the need for secondary and tertiary levels of referral and support. Even if a constructive relationship can be developed between an outside institution and a local community, isolation of that community from necessary support activities at more technologically sophisticated or politically central levels is not appropriate.

The third structural level (following from characteristics of local communities and problems of institutional relationships with those communities) has to do with some of the problems of the involvement of outside professionals in community affairs. There was much discussion in all the groups concerning the application of professional knowledge and skills at the local level. The major principles that came out of this discussion related to the importance of a two-way exchange (learning, as well as teaching), and an emphasis on the appropriateness of indirect roles for outside professionals and technicians--teaching, support, consultation, referral, and backup.

There was considerable discussion of the problems of what I would call the "arrogance of virtue"; the tendency on the part of professionals, people like most of us at this conference, to assume that, because we believe our motives are good, our solutions are therefore relevant.

What specific factors can serve to lessen the distance between outside professionals and communities and community residents? Several were discussed, relating to the preparation of professionals to support community mobilization. Included in these were the question of selection, and the importance of mutuality of selection

between the community and outside training and other agencies.

There was considerable skepticism that the training process (various modifications of curricula, et cetera) could really make much difference in changing the attitudes and competence of professionals. This was an issue of some debate. Issues that were proposed as important in the training process were training for competence, training for motivation (if anyone knows how to do that), and then structuring appropriate rewards and control measures for the supervision and support of professionals once they are working in the field.

The final structural levels to be discussed were the national and international levels. A spectrum, in effect, was developed between the local community, the central government, and the international community, if I may use that word.

There was much discussion about the development of appropriate linkages between communities and the central political level. As I mentioned before, community mobilization and the development of a community's own resources is in fact viewed as a threat by most governments.

The point was stressed that in addition to "concern" and "sincerity" for the welfare of the people on the part of the central government, there also needs to be competence--competence to deliver services effectively and competence to relate appropriately to community perceptions of need (as one technician/discussant phrased it, "we need to learn to trust the village").

A principle was articulated which has relevance to all structural levels: there is a need not to foster dependency; not to foster dependency of individuals upon their communities, not to foster dependency of communities upon the central government, and not to foster dependency of national governments upon outside governments or international agencies.

This was related to discussion about international economic and political structures. There was general agreement that there needed to be, perhaps analogous to John Grant's thoughts in health services, an appropriate regionalization: appropriate levels of policy, planning, implementation, and facilitation of program and evaluation. There needs to be some system of vertical integration of appropriate activities to be carried out at each level. At the same time, there needs to be a horizontal integration at each level across different

sectors and different areas of disciplinary involvement. An important principle related to this need for the appropriate regionalization of policy, planning and other activities, is the principle of placing authority and responsibility at the most peripheral level possible for each activity.

EDUCATION AND HEALTH: John Bryant

The discussion groups on education and development followed a pattern that I think many of us follow frequently in meetings such as this, and that is, regardless of the format of the subject provided by the keynote speaker, we tend to move the discussions to the areas that we are familiar with, the things we have been doing ourselves and the things we are interested in.

I found, therefore, quite a discrepancy between the reports from the different discussion groups and at least some of the major and very important points that were made by John Simmons. That is not a criticism, but it does say something to us about how we can generate a broader perspective for ourselves, as we look at some of these subject areas with which we are familiar. And since one of the purposes here was to move from the familiar ground of health per se into a broader context, we might ask ourselves how we, for ourselves, can develop a broader base from which to look at our own work. I will illustrate that in a moment.

Nonetheless, some very interesting points were made in the discussion groups. Health may be a right, but it is also a responsibility of everyone. Who is qualified to decide priorities? The community. They may have felt needs other than those that are preconceived by outsiders, particularly health workers, and therefore, the health workers must have an integrated understanding of the needs of development, health, agriculture, marketing, construction, water systems and so on.

What are the important qualifications for an agent of change to have? The ability to listen to people, to live with people as an equal, to share with people, to learn from them.

A particular problem is consciousness raising. That was reiterated on several occasions. Education for behavioral change is important. It must take into account the heterogeneity of community people. It is important not to focus only on population groups, such as school children, because there are more groups that need change by education, and also because the supporting social structure of the communities must be diverse within the communities and not limited to one group.

A holistic view of medicine and health are needed. The barriers to progress in development, through education, are political, commercial and hand-outs. That is, the paternalism that comes from hand-outs creates dependence, reinforces servility--an example given of this was that acceptance of powdered milk as an inducement for vaccination leads to more bottle feeding.

One of the problems that is seen in education is that, often, the people do not understand the materials that are being used to educate them. People do not understand posters as well as those who draw the posters. There is the assumption that health education connects directly with what people already understand as their needs for learning. For example, a nutritional program may assume that people know that they are malnourished, yet a study in Colombia showed that 70 percent of the people did not know that they had a problem with malnutrition.

This brings up a point that was not raised in the conference, but which I would like to introduce at this time. There is a gentleman at Columbia who speaks of the importance of perspectives for learning and the need for changing perspectives. People learn according to how they see themselves in the context of life and their communities, and certain things that are brought to them to learn may have no meaning for them unless their perspective includes them as being important. He emphasizes that changing the perspective is a necessary precondition for learning. As one example, the nursing and medical professions earlier saw little need for the use of nurse practitioners. That was the case in the early 1960s. Then something happened. There was a transformation in the perspective of the medical profession whereby, over a few years, the idea of nurse practitioners became very important. Then you could not stop the movement of groups and individuals who became interested in the idea of learning about nurse practitioners and promoting new approaches to it. A transformation in perspective had occurred. This is true also for communities and how they learn, as well as for individuals, and this transformation in perspective is a necessary precondition.

In the group discussions on the difficulties of reform, some felt that "getting the ear of" the elite and reasoning with them was the key to changing the system. Others felt that the elite were part of the problem and getting their ear would not help, but would only compound the problem.

Participatory involvement is very important; it is an aspect of self-determination. How does one intervene from the outside to encourage participation? Or, how often will intervention from the outside discourage participation?

There were many other comments that I could quote, but will not at this time. Reflecting on those comments, however, I want to remind you of some of the points that John Simmons made. He talked about the inefficiency of education, the mismatch between education and life needs, the inequities in educational systems. He talked about the contrasting importance of education--on the one hand, education for economic growth, and on the other, education for closing the gap between the poor and the non-poor.

He reminded us of Myrdal's comments that the poor are not educated to see their own interests, nor organized to fight for them. He pointed out the conflicts between formal and non-formal education and that the economic-political power is distributed to control education--where the power lies is the direction in which education points. Thus, increased participation is often seen as a political threat.

The reaction I had then was that the discussion groups probed very thoroughly and with insight into this matter of what happens at the community level in terms of who is learning and how you participate, how you bring communities into that activity. But it seemed to me that it was almost isolated from the broader perspective that John Simmons had given us and that one of the challenges to us is to understand the role that education broadly plays in development of both formal and non-formal education and how our own experiences fit into that perspective.

FOOD AND HEALTH: Joe Wray

Given all that we have heard about the interrelatedness of everything, it will not surprise you to hear that many of the topics covered in the four discussion groups that dealt with food and health have been referred to already.

Following Carl Taylor's example, I circulated among the groups dealing with food and health and was struck both by the diversity of topics that were being discussed under the rubric of food and health and by some of the common themes that emerged.

Although many of the specific issues that were dealt with have already been mentioned in one or more of the other summaries, some different topics did emerge. One of those worth mentioning is a point made in some of the groups that we should distinguish between the different causes of lack of food. Thus, there are communities in which food is available but is not used properly or is not getting to the people who need it. There are other communities in which food simply is not available; and, of course, there are communities where both of these may apply.

In the communities where food is available but is not provided to particularly vulnerable groups or is not being used properly, education alone may be sufficient at least to make a reasonable attack on the problem. Distribution or redistribution--equitable distribution--may be another important element in these communities. On the other hand, in communities where sufficient food simply is not available, the problem is different, and the challenge is either to find ways to help people produce what they need or to give them the economic strength or power to obtain it from elsewhere.

One point that I heard repeated in discussions on food and health revolves around the issues of "top-down" or "bottom-up." Obviously, with regard to food and health, the potential for effective local participation in a bottom-up approach is surely important; in many instances people can produce the food they need.

Let me conclude with two final points. One of the groups felt that we as individuals and organizations like

the NCIH should take a stand with regard to our own government and its role in international affairs. They suggested, specifically, that we recommend, at least as individuals if not as an organization, that our government begin to back away from supporting those governments that are fostering the concentration of wealth and instead devise policies that will support governments that favor distributive justice in their own societies. I think this is something we should seriously consider.

Finally, to end on a note of optimism, one of the groups noted that although we frequently lament the fact that 25, 30, or 40 percent of the children in many countries are malnourished, we need to look at the inverse situation and keep in mind that in many communities 70 percent of the children are well nourished.

This is indeed true. Many of us have visited communities--urban or rural--where we found appalling environmental conditions, illiterate mothers, no food budget apparent, very limited kitchen facilities, et cetera; yet some of those mothers have beautiful children. Some of those mothers know, under conditions that we cannot comprehend, how to feed their children well. If they can do it, we should be able to learn something from them, perhaps, and pass it on to their neighbors--or better yet, enlist them as teachers.

WATER AND HEALTH: Donald Ferguson

Dr. McGarry's paper contained provocative propositions, but when discussed at length and when the terms were fully debated, the groups on water and health reached the qualified agreement that availability of water supplied alone provided modest health benefits. Improperly managed water supplies could increase health risks to populations.

It became increasingly recognized as points were discussed and debated that integrated programs of environmental health, along with water supplies, were essential. Personal hygiene, excreta disposal arrangements, and the like were seen as important as water supplies themselves, if not more important in disease prevention and promotion. It took time and heated discussion to reach this position, but most groups came to this conclusion. Clarifying terms and concepts was an important part of the discussion.

Village involvement and control in the whole matter of water supply was seen as both important and essential to the economical operation and maintenance of water supply systems for low income developing countries. Where the villagers were not involved themselves, where a water supply or pump was viewed as "their" pump (meaning the property of a central or district government), there tended to be little attention paid to maintenance.

Many here can recall instances where you have seen many properly constructed wells with pumps broken off, a large hole in the concrete top, dirty buckets going down into the well with animal wastes and other debris being kicked in as people obtained their water through dip and haul by bucket. I can think of many such wells I have seen on field trips in all rural regions of the world.

Village involvement and control are particularly important not only for operation, but for maintenance. Responsibility, to the greatest extent possible, must be felt at the village level and by the villagers. Villagers must feel that a water supply is their own and that ultimately they bear responsibility for its maintenance and operation.

Of course, backup is needed, and vertical linkages are needed with an organization which can assist with training, with motivating people to get together so as to maintain motivation, provide a sense of ownership and responsibility, and to be self-reliant to the greatest degree possible.

Village workers were felt by the groups to be important and necessary for low-cost water supplies which they could afford. Everybody's business is nobody's business, as we all know, and groups were in consensus that village workers of some sort would be necessary for maintenance. Whether or not such an individual would be a health worker as well was a matter in which there were marked differences of opinion. Nonetheless, a village worker was seen as central. Linkages of the village worker were not always seen as being with ministries of health. In different countries, situations are different. In some countries, and in some regions, community development organizations would be the link for the village worker.

In one country, the group felt the ministry of education would be the most effective coordinator. I believe the Malagasy Republic was mentioned in this regard. Nonetheless, the essential point is that water and ministries of health--if we are talking about village water supplies--are not necessarily an identity. One must take into account the pre-existing particulars, the traditions, the interests, staffing, motivation, and not try to apply universal, doctrinaire, or stereotyped organizational solutions.

Finally, as the sixth point, it was agreed that there is a fundamental need for professional collaboration between engineers and physicians at the international level, at the national level, and down to district and local levels if at all possible.

It was agreed that physicians, public health engineers, and sanitary engineers are not talking to one another on matters which are clearly of mutual interest. Each professional group views themselves as having territorial "turf" which they leave to one another. Means-end relationships are very infrequently discussed between them. Thus, there is a need for greater dialogue between the engineers and health care officials. In one group the point was stressed that, at the international level, there is a need for a role model and example to be set by the World Health Organization. WHO was found by some groups to be derelict in setting an example, and

as important in legitimizing such cooperation. There are few visible models we can turn to for examples of collaboration between engineers and physicians or other health care professional groups.

Certainly, some collaboration should be made manifest in university settings, particularly in schools of public health. It is not only the physician that is at fault, but the engineering group as well. Both sides need to recognize a need to work together collaboratively with respect to sanitation, environment, and water supplies. Such recognition has been growing in Britain. A conference is planned in London for December of 1978 under the sponsorship of the Royal Society of Tropical Medicine and Hygiene.

In the interest of brevity, I have reviewed only the highlights and major conclusions of the several groups on which there was relative and general consensus.

LIFE SPACE AND HEALTH: Stephen Bennett

I think that one of the most interesting aspects of the presentation by a social scientist at a health meeting is that it gives rise to contention. Most of us probably consider ourselves amateur anthropologists in somewhat the same manner we believe that, because we have all been to school, we are all educators. So, first of all, I can report that the small groups on life space and health were not talking about the same things. There must have been some kind of self-selection mechanism operating which determined which people elected to attend which meeting. It may have been related to what they wanted to say. The groups were not aware of this difference, and it was only discovered in the discussions the group leaders had afterward. I use that as an example to illustrate the complexities involved in the understanding of cultural and social behavior, and that we ourselves, as health workers, take part in these processes.

The main problem was that not very many people discussed the definition of what life space is. Apparently, we either all know what it is, or the fundamental issue of life space and health was one that was carefully avoided. Nevertheless, one group agreed in general that they were using the definition in social, rather than physical or spatial terms, and that the important aspect is that it is an interlocking hierarchy of different social networks. In other words, there is a family network, a community network, and even a nation-state network. The most important aspect of the interlocking networks is the individual's perception of which social networks he is a member.

Two other points of major concern emerged as part of the definition of life space--time and the perception of life space. Time was referred to before, but the discussion group felt strongly that the concept of time was vital. We strongly agreed that the cost-effective economic viewpoint, requiring short-term results, is probably unrealistic. Once one is considering the context of how much time it takes to change a community behavioral pattern, short-term economic results seem unobtainable.

The other is the point of view of the environmentalists, who see expanded life space as a fact of modern life, and ask how individuals perceive changes in the environment as it affects their health. Those of us who work in areas such as the health effects of air pollution know that one of our problems is that individuals do not perceive what is happening to them on a large scale in the environment, nor recognize that it has any direct effect on their health. Combined with that is the problem that many of the more modern hazards of industrialization may have long-term effects, so that the exposure to chemicals in the environment, for example, may not have a perceived deleterious effect for as many as ten or twenty years.

In general, to summarize the discussions, we arrived at a more pessimistic, rather than an optimistic, outlook. This differs from what many of the speakers in the various presentations were saying: we will have water for so many people by a certain time, for example. The people who were addressing themselves to the association of behavioral aspects to health tended to be pessimistic, took a long-term view, and considered it a harder task to accomplish. One group specifically addressed itself to the question of whether there is such a thing as an optimum density of human beings occupying a physical space and came to the conclusion that there is not. It depends, again, on the antecedent factors which determine how people perceive their life space.

However, using that same starting point, the discussion began to focus, at least in one group, on the role of social science in health, and, particularly, the role of social scientists and anthropologists in the delivery of health services in a cross-cultural setting. I was surprised, as you may be, to note that many people expressed disappointment. They based their disappointment on past experiences from working with social scientists, in which the orientation of the social scientist has frequently been a research orientation, demanding rigor, detail, and time, while the health worker on a programmed time schedule finds himself needing information for decision making and needing to make the kinds of decisions and to plan administrative programs which are out of phase with the way at least some social scientists have worked in the past. However, without question, in all four groups there was an expression by health workers that many of the failures of the past in health care delivery or in preventive programs have

been due to a lack of understanding of the cultural context of the consumers.

A conclusion emerged, therefore, urging increased educational input from the social sciences in the training of health workers. At that moment, in the discussion of the group leaders, we learned that the Association of American Medical Schools was reported to have disbanded its international health activities. We saw this abandonment as a threat to continuing social science education and felt that perhaps a trend is occurring to make many of the health educational programs have even less social science context.

With regard to the concept of assisting or stimulating community organization, almost everyone in all the groups agreed that any community intervention is a political act. The consensus was that most governments now recognize this, and, therefore, governments are becoming less tolerant of interference and are insisting that international programs be consistent with their policy and subject to their control. That led one group to consider what the function of an international health worker is. We defined an international health worker as someone from one country working in another country. At least two points were raised in this context. The first is that international workers who are sensitized to the community aspect are aware that they may become an effective link between the community and the government in fostering government programs designed to stimulate community organization and development. A second aspect is that, in some instances, at least, it has been reported that once a government has arrived at a plan for what it intends to do, implementation of the plan becomes a problem. In these instances, some international organizations, with particular reference made to private organizations, are then allowed to assume a particular role because it fits the government's plan.

There was a very widely expressed agreement that workers who have had experience in developing countries or in poorer parts of this country have a great deal of faith in the capacity of even the poorest communities in the poorest countries to provide fundamental resources for their own betterment. They see this not only as a tremendous asset but as an absolute requirement for the improvement of health in the communities. However, they also see a conflict in the importation of technology which is not adapted to local circumstances. Recommendations from the groups, therefore, led to the plea for

research on appropriate technology--appropriate to the particular conditions that exist in some of the countries in which we serve.

Another provocative question dealt with by one group was: what affects health? Most agreed that health care has a relatively minimal effect. They asked, therefore, that if development seems to be the key, why do we not invest our health money into the development process, particularly agricultural development?

INQUIRY AND COMMENTARY:

DR. NUTE: We now have a half hour's time that we can devote to free discussion and questions. I propose that we open the floor to those who wish to ask a question or make a short speech.

MR. DAVIS: My primary interest is in the organization of rural health services in less developed countries and, particularly, the use of village health volunteers. One of the things I have discovered during this meeting is that there is a problem of contact and exchange of information among people who are working in rural health services, simply because they are so isolated. But, there are ways of collecting and disseminating information in the area of rural health services. One, of course, is Salubritas, which is a new newsletter done by APHA. The other is "Rural Health Action," from the University of Alabama. And, of course, there are international conferences such as this, and those of us who happen to be within the Washington area can find out about what is going on in rural health services. But, I think that there have to be more of these initiatives, and I hope I will not embarrass a friend of mine from India who hopes to publish a journal on rural reconstruction which addresses not only public health problems in the context of ministry of public health efforts, but also in the broader context of community development--a theme that has been nicely developed at this conference.

My second point is that when we talk about community participation in health services, we have to think about whether we are talking about health for the people, which is done very commonly by ministries of public health, or health by the people. The latter is the delivery of primary and categorical health services by indigenous, bottom-up efforts in which the consumer of health services and the provider of health services come from the same background, have the same motivations, and in which there is no social distance between the consumer and the provider of health services. I think that one must make that necessary distinction between health for the people, which is very common and which is highly touted in a lot of ministries, and health by the people, which is very rare.

MS. ELLIOTT: I would like to follow-up on the point that Dr. Bennett made when he was discussing the summary of the life space discussions in terms of the role of the social scientist. I think that many of you here are in

some way attached to the medical sciences. By definition, those trained in the medical sciences have been isolated. The whole orientation of their training is to concentrate on hard science throughout their educational process.

I think that it is time to make a plea for cooperation between the medical sciences and the social sciences. Those of you who are in the international organizations and who are in the universities have now, finally, to open your doors to the social scientist. You have to ask what contributions the social scientists can make.

There has been much discussion of the problems in rural development and in the interrelationship of health with the factors that we have discussed. What has come through as a theme is that many of the problems are administrative, evaluative management problems. There is a fully developed collection of disciplines who are expert in these fields, and these are the social scientists. There are also those who are experts in business administration, and those who are experts in marketing. I think if this group can go away from this meeting wanting to discuss, with other people within their organizations or within their universities, the possibility of cooperation, both in terms of training of their own students, but also in terms of the conduct of projects, this meeting will have achieved a tremendous amount.

MS. HAMDAD: I would like to share with you some of my personal anxieties. Whenever we speak of the poor, we have to understand the numerical difference involved. There are more poor, for instance, in the developing world than there are in the developed world. However, I think the resemblance between the poor of the developing world and the poor of the developed world should be addressed.

Second, I think that whenever health services have been available in the developing world and the rural populations, they have been under-utilized. This issue has not been addressed sufficiently. Why is it that when health services are available, they are not being used?

DR. NUTE: Let me comment on that myself? I formerly worked in the developing world overseas, and I am fond of reminding people that I am working now in the developing world of Manhattan, New York City. I can see exactly what Miss Hammad has just pointed out, that the very people who most need the health services that we are trying to provide are those whose health indices tell us that they are under-utilizing the services that are available to them.

I agree entirely with what the speaker has just said. We are in a global situation. There is not an easy and facile distinction between the "have" nations and the "have not" nations. In fact, I believe it was our address on poverty that made a distinction between poor people and poor countries.

DR. BRYANT: I want to follow-up on the comment just made. In attempting to address why people do not use health services that are there, I cannot answer. But I would call your attention to a young Chicano sociologist in California named David Batista, who is examining what he calls deviant health care systems--the idea that people, particularly minority groups--find the formal health care systems unacceptable or impenetrable for various reasons.

David's feeling is that by studying some of these so-called deviant health care systems, one can get some hints as to what people feel they really need and use this to help modify the formal health care systems.

DR. DODGSON: One comment relative to hospitals. I think in our concerns for an orientation toward community health and community resources, there is an agenda to which we need to address ourselves, and that is, what is the appropriate hospital structure for whatever our health care system is? We should ask some basic questions as to what kind of hospital is appropriate to our orientation. How large or small should it or can it be? How is it to be built? Where is it to be located, and how can community resources be utilized in the financing and the construction of such a hospital?

It may be a limited agenda, but I think it is highly significant to any orientation that we may have, because we have to define or redefine what we want or need by way of a definitive care structure within our broader context.

MR. LYNTON: My name is Rolf Lynton and I want to propose something very simple. Before I propose it, I want to stress my hesitation; when one proposes something simple, the question becomes why has it not been done long since, and you wonder about the investment in keeping together something that I think might be practical to test for separateness.

I propose a linguistic distinction. I would suggest that we identify what is medical care from what is health care, and what is preventive medicine from what are the life spaces used in the community development issues.

that we have very rightly talked about. I think medical care relates to hospitals, physicians, nurses and curative services. We are indeed the experts in that, and it is not in this area that we need the social scientists. But we do need them and others around health care.

Preventive medicine is the third thing, because it has an oral specificity that I can address as one connected with public health and the medical schools. I can identify issues of toxic insults in the environment that need engineers and chemists and so on. I can deal with that. That is disease preventing, but is different from what I think we very importantly talked about here of the support systems, the community norms, the life-style issues, and the life space issues, which influence health.

I think these three different things address different expertise and can be related to differently by communities. It is important that they do this. If we, as professionals, keep alive what seems to me a way of jumbling these things together, then I wonder about our investment--not in health, but in sickness, and not in empowering other people, but in keeping ourselves in the role of being the saviours of people who I think need to be empowered to look after their own health.

DR. BENNETT: I have the happy opportunity to switch roles from a reporter of what I was instructed to say, in a sense, to describing what I hope is a different attitude.

As I suspected, several people challenged me on reporting on the problems of integrating the social sciences into health. Two things are happening that I know of personally. One is, in our own center in PAHO in Mexico City, the next position we are filling is that of a socio-cultural anthropologist. The reasons behind this are the recognition on the part of those of us who are working in this area of the absolute necessity to bring both the viewpoint and the methodology of the social scientist into some of the community oriented programs. Thus, the attempt by international organizations is slowly occurring. There are people who are increasingly well trained in this area.

The highest level where this is occurring can be seen in the Vice Chairman of the Advisory Committee for Medical Research of the Pan American Health Organization, who is insisting that the Organization realize that some of the fundamental variables which explain the differences in disease prevalence or incidence, are behavioral variables.

What is happening, I believe, is that the epidemiologists and the other technicians in the field of community health are being forced to face the fact that we have imperfect measures, that we must develop methodologies which can quantify the importance and the impact of the behavioral variables on the distribution of health in communities.

The step following that will come from the social sciences. Are there culturally and ethically acceptable technologies to change behavioral patterns to bring about an improvement in health status? I think we are a long way from being able to do that. I think health education, for example, has a relatively poor record of providing evidence that education actually brought about a change in disease incidence. But the point is that I think there are a series of institutions, both internationally, and certainly within the universities that I am familiar with, that are making very strong, very well controlled scientific efforts to try to bring this about.

What I was exposed to during the conference was the fact that past experience of many of you working in overseas situations has been one of some degree of frustration, and that means that there has been an expression which tends to lock out the possibility of changing our methods and changing our points of view for improving them in the future.

I think that we should, if we take any message away from here, recognize that we have had some difficulties in the past, but that does not mean that the fundamental issue is solved or resolved. It means that we must pay more attention to the behavioral variables so that we can effectively do some improvement in the health status of populations.

MR. FLEAGLE: This morning, in the summary of one of the groups, we were given an inference that there were two ways an international health worker could be a positive influence. The first was that they could be sensitive to the community and this, according to the report, suggested that they could be a link between community and government.

I approve the first part--that the international health worker could be sensitive to the community--but I think there may be a conflict. For instance, within the discussions we have had, it was suggested that the community itself has to find ways of communicating with the government and that the community development worker or the health worker cannot substitute for what needs to go between the community and the government.

I accept fully that international health workers could be assigned an implementation role. And this, again, I would think to be a delegation of authority as far as the community is concerned, or as far as the government is concerned. But the part that I had a problem with was how could the international health worker be a link between the community and the government?

MS. BARROW: The question of the international worker being a link between the community and the government is one of the things that we have to think through, because that puts us again in the role of the expert. Might it not be better that, in finding the possibilities within the community, we act rather in a liaison relationship, letting the government appreciate the often very great degree of leadership in their own communities?

Otherwise, we are saying again that what comes from outside is better than what is within. But I do agree that the link as a liaison is a good one.

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SUMMARY OF CONFERENCE

William L. Nute, Jr.

I thought as I approached this moment of truth, that I began to understand how a kamikaze pilot would feel. It is ridiculous after a program such as we have had for anyone to try to summarize it. It has been so diverse and so intense that it would be impossible to do.

I take it as my task not to summarize, but, rather, to try to give you some of my own reactions, my own conclusions, what I think has been happening and what has impressed itself upon me in the last two and a half days. I have about three points that I want to make.

The first, interestingly, is a question of process. We have talked about trust and we, the planners of the conference, trusted you, the people, to come and make a conference in which there would be demonstrated the integration, the interrelatedness of the six themes that we chose to build our conference around. And our trust was justified.

You did build a conference that showed that integration. Some of us perhaps knew that this was true; some suspected it. But as I have moved around among the groups and have listened to the addresses, I have seen that it is inescapable, both in the addresses and in the group discussions. So much so that as one walked into a discussion group, one would have difficulty, just from listening to what one overheard, in knowing which particular theme they were supposed to be discussing.

This is not a fault. This is an illustration of our theme, that it was impossible to discuss the use of community resources without getting into questions of poverty. It was impossible to discuss poverty without getting into questions of nutrition and of politics. It was impossible to discuss any of these without getting involved in the others--so much so that when I had the privilege of reading the manuscript of one of the major

addresses yesterday, I perceived that it bore very little resemblance to the remarks that were made from this podium. This, it seems to me, is an expression of what we were hoping would emerge and become clear. It has become clear.

Many of you are aware that, during the course of the conference, others of us were concerned with framing the resolution that was read to you from the podium at lunch yesterday on the world recognition of certain rights as enunciated by President Carter. We had difficulties with this: we caucused and caucused again. Drafting that document was no pro forma business, I can assure you. We were troubled by a number of issues that bothered us, one being the fact that to talk about a right makes no sense unless the right is something that can be protected.

Our own United States Constitution does not define "happiness" among the rights that it proclaims. Rather, it proclaims the "right to the pursuit of happiness." Thus, we felt that our own President, whether inadvertently or not, had made a semantic gaffe in referring to health as a universal right. Some of us believe that it might be more semantically correct, though less eloquent, to talk about the right to access to health care, rather than health itself as an inalienable right which can be enforced.

But there is something else to be said about a right. A right is something which, in the interest of us all, we all should have; and here is where our thinking and our awareness have been evolutionary. Our conception of right, in this sense, is enlarging. The statement of President Carter, while startling to some, is merely an acknowledgement to others of us of what we already knew.

Thus, we realize that the integration of which I have been speaking--the integration which we have been experiencing in this meeting--is itself an illustration of this enlargement of the concept of right, a recognition that if we are to consider access to health care as a right because it is for the good of us all, that all of us should have it, so also are some of the other things that we have been discussing here.

It is customary at such a point to quote John Donne's famous poem to the effect that no man is an island. It has become a cliché. But I put it to you that we have eliminated smallpox from the world because it is in everybody's interest that smallpox be eliminated. Millions of people who have never seen a case of smallpox,

who have never been exposed to smallpox, will now be forever free from that disease because resources were spent to eradicate it, not only from our neighbor next door, but from our neighbor half-way around the world.

Poverty in our neighbor, be he next door or half-way around the world, injures you and me. It is a threat to our well-being, however affluent and however comfortable we may be. The elimination of poverty has to be considered. It has to be understood and realized for what it already is--not pie in the sky, but a right, a right which is in the interest of all of us to achieve.

I am not going to deal with the semantics about relative poverty versus absolute poverty. I think you all know that trap, and what is false and what is real about it. Of course, unless everyone has exactly the same thing, there will always be someone who has more than someone else. Of course, poverty is not measured, in its reality, in terms of an absolute possession of goods and income, but rather as a gradient, the steepness of the slope between what one man has and what another man has. And that steepness is affected by two things--the relative heights of two levels, and their proximity or remoteness from each other. It is that slope between them that is the real meaning of poverty.

I submit to you that it is not only possible, it is necessary--it is a right--that we should dedicate ourselves and recognize our obligation, recognize the justice as well as the need, that that kind of gradient be reduced, be made shallow.

Consider preventable illnesses, of which I mentioned only smallpox as a dramatic example. Consider the rise of health care costs, which, especially in the developed world, is most dramatic and most catastrophic. The fantastic rise in the cost of providing health care is a disaster that affects all of us. The occurrence of preventable illnesses is something that affects all of us. We all pay for it, whether we are on Medicaid or Medicare, on Blue Cross, or not insured at all. When the cost of health care goes up, not one of us is free.

There is a second point that emerges for me--and my effort here, in all honesty, and it is what made my task difficult, is to report to you what has actually happened, rather than something I am sucking out of my thumb, or was expecting to happen and therefore saw it. You must be the judge of whether I shall have achieved that task of objectivity.

I think I have perceived here something else of interest and almost of surprise: how, from so many directions, the concept has emerged that nothing less than radical change will do. Nita Barrow struck that theme in the keynote address when she related health to such a question as land tenure.

No one who has ever looked at the land tenure problems around the world will think that it is a peripheral, an innocent, an easy question. It is something that calls for radical change if change is going to mean anything or to be effective.

James Grant, in his talk on poverty, pointed out that the attack on the problems that he was identifying was possible, but possible only if there is a political will to bring it about. He alluded, just for one example, to the necessity of revising the terms of trade between the highest income countries and those of middle or lower income. That is not a joke, ladies and gentlemen. That means something has to give. That is not just a minor and peripheral change. If he means it, and I am sure he did, if we hear him, and we must, that kind of change is a radical change.

John Simmons, in his lecture on education, was pessimistic if you only listened to part of what he said. I cannot speak for Mr. Simmons' frame of mind. I can only speak for the frame of mind in which I heard him. He confronted us bluntly with the fact that education, as it now is, is not serving the millions and the billions, and there are many of those who carry power who do not really want it to serve those millions and those billions.

Are we going to let it drift, or are we going to participate in the processes of change which are going to have to be radical change? Let us not shy away from it. Some people are going to have less if everyone is to have enough. The equitable distribution of the kinds of rights to which I have been referring and which I have been proclaiming as rights (and I am not the first and I will not be the last to proclaim them so), is going to mean that some people do not have too much in order that all people have enough. And we will continue, I am confident, to evolve in our understanding, in our conception, not only of what is enough, but of how an equitable distribution can be achieved.

Now, it is legitimate, if one reaches an absurd conclusion or a conclusion that appears absurd or unacceptable--to question either the logic that seems to lead to that conclusion or the prior assumptions, the premises upon which the logic is based.

If the logic that we have been hearing in these days leads us to the kind of conclusion that I have just been enunciating as my second point--the need for radical change--seems unacceptable or ridiculous, it is legitimate to examine either the premises or the logic, and I would not deter you from doing so. I only speak from my own heart and my own conviction that it is not absurd. And I would invite then a re-examination of some of the stereotypes that we may have in our minds about the language of that conclusion. I have spoken of radical change.

At this point, I recall my amateur theological days when I was working with the National Council of Churches and, through that, with the World Council of Churches. It was our appalling task not only to advise on the tactics and strategy of church-related medical work around the world, but to stimulate and engage in thinking about the basic rationale for such work. Our Bible in those days was a pamphlet of the World Council of Churches called, "The Health Church," a report of a most fascinating and profound conference at Tübingen, in the early 1960's. One of the conclusions that became a watchword, a slogan, a banner for us was the concept that healing belongs to the congregation. Healing belongs to the congregation.

The other day, this was recalled to me because I was invited, in a very informal way, to meet in a home in the middle of "El Barrio," the East Harlem slum of Manhattan, with a group that has been in existence there for some years, called the Interfaith Council. For a few hours I escaped the secular world in which I am now employed, and to which I am now dedicated, and was talking with a group of people with whom the kind of vocabulary to which I have alluded again became relevant.

I rediscovered how it was still relevant in that secular world. In those past years, I was talking to my colleagues, using the theological language about the locus of health care being not in the hands of the elite and the professional alone (I did not say not at all, I said not alone), but in the hands of the community, of the congregation. What do I now find myself doing? Anywhere from two to four nights a week, I find myself sitting in meetings of local sub-area councils of the Health Systems Agency, created by P. L. 93-641, a grass roots, practical, specific process of involving the people of the community. Sometimes they are illiterate, sometimes they do not know one end of a sentence from another;

their language often would not be admissable on T.V., but they are concerned. They are giving their time. I am getting paid for it, but they are giving their volunteer time to achieve a voice on the health care that is provided to them and their neighbors, and a voice on how it is purveyed to them.

I am engaged in empowerment. I am engaged in community involvement in the developing world of the United States. And as a health officer of the New York City Health Department, this is where I put a major proportion of my time and attention.

This is radical stuff, ladies and gentlemen. When you talk about involving the community, as we did repeatedly in these last days, when you talk about the reduction of poverty, or making food and water accessible and properly used, or making education relevant, you are talking about the redistribution of power.

Power does not redistribute itself easily or automatically. We have heard it said, indeed, we have said to one another, that trust is indispensable because the poor, the oppressed, the neglected, the bottom stratum have been turned off by the establishment, by people like us, because they have been betrayed and utilized and manipulated too often, and they do not want any part of us.

If we are to do what we are dedicated to doing, not for but with them, we must win their trust. And there is only one way to win trust and that is to be trusting. There is one sure way to lose trust, and that is to be untrustworthy. Trusting is indispensable, and trusting means a sharing of power. So when we got away, as we did at this conference, from discussing health problems with health professionals, we began to get certain remarks, and I only quote what I overheard: "Is there an alternative to revolution?"--spoken not hopefully, but sadly.

It is at this point that I want, with trepidation, to invite a reconsideration of stereotypical thinking. In our Bicentennial year, in 1976, how often did we hear the words, "the American Revolution," spoken with pride? The American Revolution is an upbeat phrase. There is nothing frightening about it. We like it. By contrast, when one refers to the Russian Revolution, in our society, most of us find this a downbeat phrase. What is the difference? Obviously, there are many differences. I do not propose naively to oversimplify; it would be fantastic for me to suggest or imply to you that the only

difference between the American Revolution and the Russian Revolution is the national prefix. Far be it.

There hangs in my office a poster which I brought back from one of my overseas trips, the most recent one, in fact. It hangs there not only because I like it decoratively, but because, surprisingly enough, it reminds me of what I am about, with due allowance for differences in circumstances and background. That poster celebrates the anniversary of the Committees for the Defense of the Revolution in Cuba. And why does it hang in the office of a bureaucrat concerned with health in a free enterprise country? Because it was not, in Cuba, the Ministry of Health that abolished polio. It was this grassroots organization of neighbors being concerned about neighbors and taking into their own hands, and keeping in their own hands the processes of health care, as distinct from the care of illnesses; actually, both.

The point I want to make is that in their way--which is not an American way, nor French, nor Russian, nor Chinese, but a Cuban way--they have gotten neighbors involved with neighbors and empowered them to take steps for their own health; and they have been effective.

Certainly I do not want to say that one country should mimic or copy another. I do want to say that we are blind if we fail to look at what others are doing. Revolution, then, is not an event that happened between 1776 and 1783. It is not an event that happened in thus and such a year in Russia, or thus and such a year in Cuba or thus and such a year in China. Revolution is a process, a commitment, an interpretation of causes, rather than a war. I should say, speaking personally, that I am a lifetime pacifist. I am dedicated to the possibility of nonviolent change where men and women are committed to it.

I put to you that it may be time for us to begin with trepidation to look at what the connotations and the feelings are about the word "revolution." Because what we are really talking about is the kind of radical change which can only be described by words such as that. Let us throw it out if you would rather. Let us use another word. But let us not be blind to the fact that we are talking about changes that must be radical.

My third point is, Where do we go from here? Was our last speaker yesterday right in taunting us with the possibility that all we have been doing is repeating words that have been spoken before and will be spoken again with no change having taken place in the interim?

I hope not. I believe not. I am here on leave with pay from my boss, the New York City Health Department. I am not going to go back to New York and advise the Health Department to scrap the immunization program. But I will continue to give major attention to the kinds of things I have already described to you, perhaps prematurely, in the earlier part of my remarks--in pursuit of empowerment for people.

I am not pessimistic on poverty, but I am not utopian either. I do not expect to see it wiped out in the immediate future. I do think that health is one of the areas of work in which people can learn by experience, which is the strongest kind of learning, and that they can take command of some element of their own fate. Having learned that in one field, they can, will, and do apply that awareness in other fields.

I put example to you. It has been pointed out in our discussion groups that medical intervention may destroy something good. For example, the Western technologists of medicine may destroy the local midwife rather than teach her how to avoid tetanus. They simply try to abolish her, with no awareness of what she really means in that society.

I swear to you that there is not one among us who has not still, and will not always have, more to learn about how to learn what is important and what is essential in the communities among whom we work.

So look. So listen. So live with. So trust. An essential characteristic of anyone who would be a change agent is to be one who is able and willing to accept change in himself or herself and to make that willingness visible.

The ethics of triage thinking came up in some of our groups. Should we deny, as a rich power, aid to this or that country because it is behaving in a way that brings disaster upon itself? The question was asked, "Well, if we begin thinking that way, who is going to make these terrible decisions?"

Who is going to make these terrible decisions is the wrong question. The question is who is making these decisions now, how are they being made, why do we not know more about it and how can we find out?

At least two people spoke to me about something very practical and painful. We are meeting in a hotel which is part of a financial conglomerate which includes the Nestle Company. Everybody likes chocolate, or at least a lot of us do; I could hardly live without it.

But it is the same company which, in its purveyance of artificial foods, is increasing the mortality rate of infants in the developing world.

Is that an easy thing to face? It is a difficult thing to face. It has not been my personal responsibility to select hotels for these meetings. But every year, we hear the same thing. "Do we have to go to such a big expensive hotel and pay six dollars for a lunch while we are cerebrating and cajoling ourselves about poverty and about nutrition around the world?"

Well, I cannot answer that question. But if only two or three people are asking it, what is wrong? It is not easy to find a hotel that can provide a room as big as this one. I am not trying to answer the question. I am just reminding us that all of us ought to be at least asking it.

When we plan health programs, and a lot of us here do, can we remember what McGarry said to us yesterday? Integrate. Do not just plan a health program along the traditional lines of health care. Think about water supply and sanitation as part of your health care program. By such integration we can broaden our constituency for health programs.

Can we not ourselves help to demythologize, to demystify the health professions, and remember that one man's professionalism is another man's elitism?

There was a medieval rabbi, I believe, who said these simple words, "If not I, who? If not now, when?"

President Truman had on his desk a slogan that has been associated with the pinnacle of power. It must be ours, too. "The buck stops here."

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COMMENTARY

A. deJesus
Aleya Hammad
Charles Elliott

A. deJESUS

I find that as one moves away from the villages, the issues become more complex. On the other hand, the implementation of these concepts as presented in the conference may prove to be more frustrating than the discussions themselves.

From specific problems, the discussions have expanded into broader issues like poverty and community development. As we realized the interrelatedness of problems, suggested solutions have become more complicated. These call for different disciplines (e.g., medical and social sciences) addressing themselves, as a team, towards societal problems.

An important lesson in the discussions is the incorporation within this team of a potential power previously excluded--the power of people themselves to contribute substantially to the team effort. I find this lesson rightfully stressed in all of the discussions. Dr. Nute has alluded to the power of the people to solve many of their own problems in New York City. I find this likewise to be true in my own experience working with herb doctors in rural areas in the delivery of health services to villages.

As one works in the village, a professional can ask how best to contribute to this power that resides with the people. Much has been said about the technology of the professional which villagers can use. At times, however, the technology is inadequate. Oftentimes, it is inappropriate. I speak not only of "hard" technology, but also of educational tools, organizational skills, and so on. Are we really contributing to the efforts of the communities? Are methodologies, evaluation tools,

and indicators of success appropriate? These can change depending on what question you ask. One question is: how can professionals utilize community resources to deliver services? This is different from: how can communities utilize professionals or their skills for the good of their communities? It seems to me that the approaches will differ depending on which question is asked.

However, it is most encouraging that concepts of integration, of self-reliance, of faith in the people, are being discussed in this conference. The mere fact that these are being raised lends a certain amount of acceptance to them so that programs, in the field, which attempt to actualize these concepts become more legitimate endeavors.

It is equally encouraging to discern the emergence of a new pattern of working relationship between the professional and the villagers. At another level, a changing relationship between low-income countries and high-income countries may result in mutual respect. Out of these, true learning may take place between peoples--the villager and the professional, the low-income country and the high-income country--and, hopefully, global solutions to global concerns may emerge.

The fact that books have been written and past conferences have been held around these same issues which we are now discussing is not discouraging to me. In the same way that villagers need time for new ideas to gestate before action is taken, professionals, too, need time for ideas to be translated into action. What is discouraging is if such discussions cease.

Referring back to technology and research, we assume that all the necessary technology exists. In some instances, this may not be true. Clearly, universities and developed countries can contribute to the creation of additional needed technology.

Lastly, the implementation of these concepts of multi-disciplinary approaches carry their share of problems in coordination and organization. Working with experts in different disciplines or even with the communities themselves can present problems which become more complex as you move from small areas to national and international efforts. These need to be faced and solutions to them can gradually be evolved.

ALEYA HAMMAD

Dr. Nute has referred to me as a person coming from overseas to comment on the conference, and I would like to add that, although I have come from overseas, I have never felt separate from the group. I have felt that we were a group sharing, discussing, and trying to look for answers. In that sense, it gave me a lot of hope, because we are all a world community. I think this is one of the successes of the conference--that all of us, from wherever we have come, have felt a part, an integral part, of this meeting.

Having said this, I would like to thank the National Council for International Health for having invited WHO to attend and participate in this very important conference. Some of you who have attended the World Health Assembly and the Executive Board meetings would have found that the very issues raised in this conference have also been part of the concern for WHO. Questions such as: why, after 25 years of work with member states in the effort to improve the health conditions of the majority of the world population, do we find that the situation has not changed? Children are still dying from infection. The majority of the people have little or no access to any formal health care delivery system; paradoxically, in those instances when health care was available and most needed, why were they under-utilized?

The WHO Executive Board study on basic health services revealed the global picture and stated that not only had the situation not improved in the past years, but, in some instances, had deteriorated, especially with regard to the rising cost of health care beyond the reach of the majority of the people. I think this was definitely raised during this conference.

This conference started on a dynamic and challenging tone. We were reminded that health care was not medical care, the latter being a small component. Second, that health was part of overall development and that many factors, such as the availability and accessibility of food in sufficient quantity and quality, the availability of potable water and housing, communication networks, functional education, all contributed to improve the health condition of the people and were, in some communities, more important in improving the health status than curative services themselves.

We were also reminded that people, whoever and wherever they are, when participating in the decision

making process and when sharing in planning, managing, implementing, evaluating activities related to their own well-being, find health care more meaningful and relevant to their needs, and the people become an active part in the community development process.

The conference did not prescribe solutions, and some may even ask: where does this lead to? What can we as health people do? I believe that, first, the fact that people from various disciplines have identified their contribution to health is a reminder and an appreciation of the necessity of an interdisciplinary approach if one is really serious about improving the health situation of the world.

Second, the search for ways and means of changing or improving our approach in the light of the issues raised was brought to the forefront. For instance, instead of opting for expensive and costly hospitals, can we develop different forms of health care less costly, more effective, and accessible to the majority of the people? The answer is yes. And examples of success have been quoted in this conference.

Can we revise the education, for example, of health workers to make it more functional and relevant to the tasks to be performed? Can we simplify scientific health interventions into a series of steps, allowing, through the use of effective learning methods, health workers and people themselves to perform them? Can health become an important component in rural development projects to avoid harmful effects some development projects have had on health? To all of these, the answer is yes.

Assessment techniques for evaluating or measuring, especially the relationship and cost effectiveness between these factors, are still being studied. But in our search for these, let us not forget factors such as happiness and reduction of suffering, which are not measureable in economic terms.

Finally, these questions which have arisen out of the issues raised in the last few days should make us feel more confident and optimistic that we are on our way to improve our approaches, especially in international health, to make what the Director General of WHO has stated--health care for all by the year 2000--a reality.

CHARLES ELLIOTT

I would like to speak from my own perspective and share with you my reactions to what I have heard. I speak as a non-health professional from a relatively rich society, the U.K., who is involved in the development business. How do I relate what I have heard here to my own program of work?

I want to make three brief points. First, I have heard here, more clearly than I have heard in any similar meeting, the argument that the inequitable and discriminatory social structures, of which the health care system is usually quite a minor one, are derived from, supported by, and legitimized through the social structures in our own countries. Now, the relationship may not be direct, nor linear, nor simple. But it is sufficiently unambiguous to suggest to me that a serious address to the issues of the poverty-health-social change nexus "out there" implies logically a no less serious address to the same issues right here, in my own society.

Let me give one concrete example, which in a way Dr. Nute has already alluded to. We have talked much in these last days (perhaps without defining our terms as carefully as we might have done), about participation, power sharing, community involvement. We know, do we not, just how difficult most professionals find the implied proposition that they are answerable immediately and directly to the community they serve? And we know the smoke screens that are generated in Pakistan, the Philippines, in Peterboro, or in Pittsburgh. In the U.K., the government recently established Community Health Councils, which were designed to serve as the communities' link with, and influence on, the National Health Service. What I find is revealing and disturbing is that there already is very substantial evidence that the vast majority of those Community Health Councils have been muted by the health professionals, so that they have become vehicles for the criticism of the color scheme of the soft furnishings.

Now, I have to ask myself: where do I stand in this situation? How can I write about, recommend, agitate for, use my modest influence on the British aid program, in favor of community participation "out there," if I am a party, however marginally, to the deliberate subversion of community participation in my own society?

Let me mention one more brief example. We have talked here of the inequitable distribution of health resources. We have talked about urban bias, middle class bias, and so on. Perhaps I imagine it, but sometimes I wonder whether I hear a slightly judgmental note when we talk about these biases. There is a sort of refrain that I have to keep repressing that goes something like, "Well, a bit of sensible planning and an occasional political confrontation would soon put that right." Then I have to remember what Julian Tudor Hart in the U.K. has called the Inverse Care Law. The law that he has established on a careful statistic base states quite simply that, even in a supposedly socialized national health service, resources are distributed in inverse proportion to their need. The result is that the poorest and sickest regions of my country, and the poorest and sickest classes within that country, get the least health care. The relatively healthy Southeast region and the less sick social classes get most hospitals, most doctors, most ready access to health facilities of all sorts.

I thus find myself asking, again, where do I stand in this? Where do I stand in the distribution of health services in my own society? Is it not obscene to engage in the safe and painless pseudo-struggle to reform systems "out there," rather than to undertake the rather less painless, real struggle to reform systems here? I realize it is not as easy as that. But if the systemic relationships are as close as the evidence suggests, at least in the non-isolationist countries, these are questions that at least have to be on the agenda. And I personally found Dr. Nute's speech a very powerful plea that they be on the agenda in a totally unambiguous way.

That whole set of issues raises a wider question. I think there are very few here who would not agree with what Dr. Grant and Dr. Wray have been telling us about the relationship between poverty, malnutrition and sickness. That nexus is in some sense central. To tackle it may not be a sufficient condition, but it is certainly a necessary condition, of any program that is likely to raise life expectancy.

Perhaps in mild contrast with Dr. Nute, I happen to believe that the revolutionary potential of most poor countries is exceedingly low, and it is likely to remain so. That implies that we cannot expect the kind of rapid structural transformation that will create jobs and incomes for the poor, either in our own societies or in

other societies. In other words, we are stuck with this problem. As Oscar Cfish reminded us, Tanzania is not China. And I would like to generalize that--nor is any other country China.

A serious assault on urban employment has to involve, does it not, a growth in the manufactured exports of developing countries. And that implies a rise in our imports. To put it crudely, therefore, if we are serious about the poverty connection, we have to be serious about the industrial restructuring of our own countries. That means we have to look again at our textile industries, our leather goods industries, our furniture industries, our assembly industries, and, indeed, our processing industries--processing raw materials that we currently import from the developing world.

Now I am well aware that this raises immensely delicate issues. Indeed, I was told not to say this because it will be too hot an issue. Why it is a hot issue is precisely because it threatens at least part of the most vulnerable and most marginal sections of our own societies. And we have to be very careful, therefore, that in restructuring our own society, or at least in standing for the restructuring of our own society, we do not merely transfer the burden from one group of poor, vulnerable, and powerless people to another group of poor, vulnerable, and powerless people. I happen to believe that there are ways of dealing with this, but it involves taking a long-run view. It involves very substantial transfer payments to those in our own societies who are moved out of the inappropriate industries, and it involves costs to the whole society.

But again, to take slight issue with Dr. Nute, I do not necessarily think that it means that anyone has to get poorer. Both in what Dr. Wray and Dr. Nute said, I think there is a view abroad of what one might call the constant cake. There is a given quantum of resources which implies that more for some means less for others. That is a much debated issue; my own position is that such is not the situation. We can, in my view, legitimately say to our own societies that it is in their own long-run benefit to attack the poverty connection seriously. Far from involving a lower standard of life in our own societies, it will involve a restructuring of that standard of life. This process does not necessarily mean--and as far as our own poor is concerned must not mean--a reduction in living standards here in order to tackle poverty overseas.

Let me emphasize that point by making it more immediate. This implies that we shall have to pay more for many of the raw materials that even the United States imports from developing countries--coffee, tea, copper, cocoa. As you know, the prices that we do pay for these materials are now on the international agenda and are in fact being negotiated at this very moment in Geneva. I am increasingly depressed by the thought that the two countries that are currently blocking progress on this issue, or at least they were when I left home on Saturday, are the U.S. and the U.K.

This leads to my last point. There are some of you who will be saying to yourselves, "This takes us beyond our level of professional competence. These are issues that are beyond the scope of any agenda that is concerned with international health." Frankly, I do not believe that. I suspect we indulge in a dangerous kind of self-delusion if we ignore the considerable influence that we have as organized professionals, whether we be health personnel, academics, church-based personnel, government employees, or whatever. Do not let us delude ourselves that we are without influence and, to a modest extent, even power.

Of course, we all have prior claims on our time and our expertise. But to ignore the extraordinary privileges of frequent travel overseas, personal contacts, continuous updating with what is going on, access to the media, endless invitations to talk to groups of all sorts--to ignore those opportunities to influence the political milieu of our own societies is to act as though the problems we have been discussing begin and end "out there." I frankly find that kind of assumption no longer tenable.

In the U.K., the government spends \$300,000 a year on "development education." It spends eight million dollars a year on recruitment posters and advertising for the Armed Services. In Canada, I am told that CIDA has now withdrawn all financial support to development education that raises questions about domestic issues.

Now, someone has to help shift the tide of public opinion, to help our people see that there are direct relationships between our standard of living and "theirs," and I personally do not see how we, as concerned professionals, can ignore or escape that responsibility.

To conclude, I leave this conference more than ever convinced that the development puzzle is a seamless

garment. It is a web that spans the oceans, a reality that mocks a simplistic and convenient division between the First World and the Third World. I simply do not believe that the only place to be involved, to get my hands dirty, as one charming nun said in our discussion group, is in the bush hospital or even the village water scheme.

To my great and rising discomfiture, I find that I have to be involved here, in my own community, even among my own colleagues. I shall need to keep on reminding myself of Mr. Ariyaratne's insistence that we do not confuse seriousness of purpose with somberness of mind. Right now, it does not feel very joyful, Mr. Ariyaratne, but perhaps it will in time.

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